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MAST & SAIL

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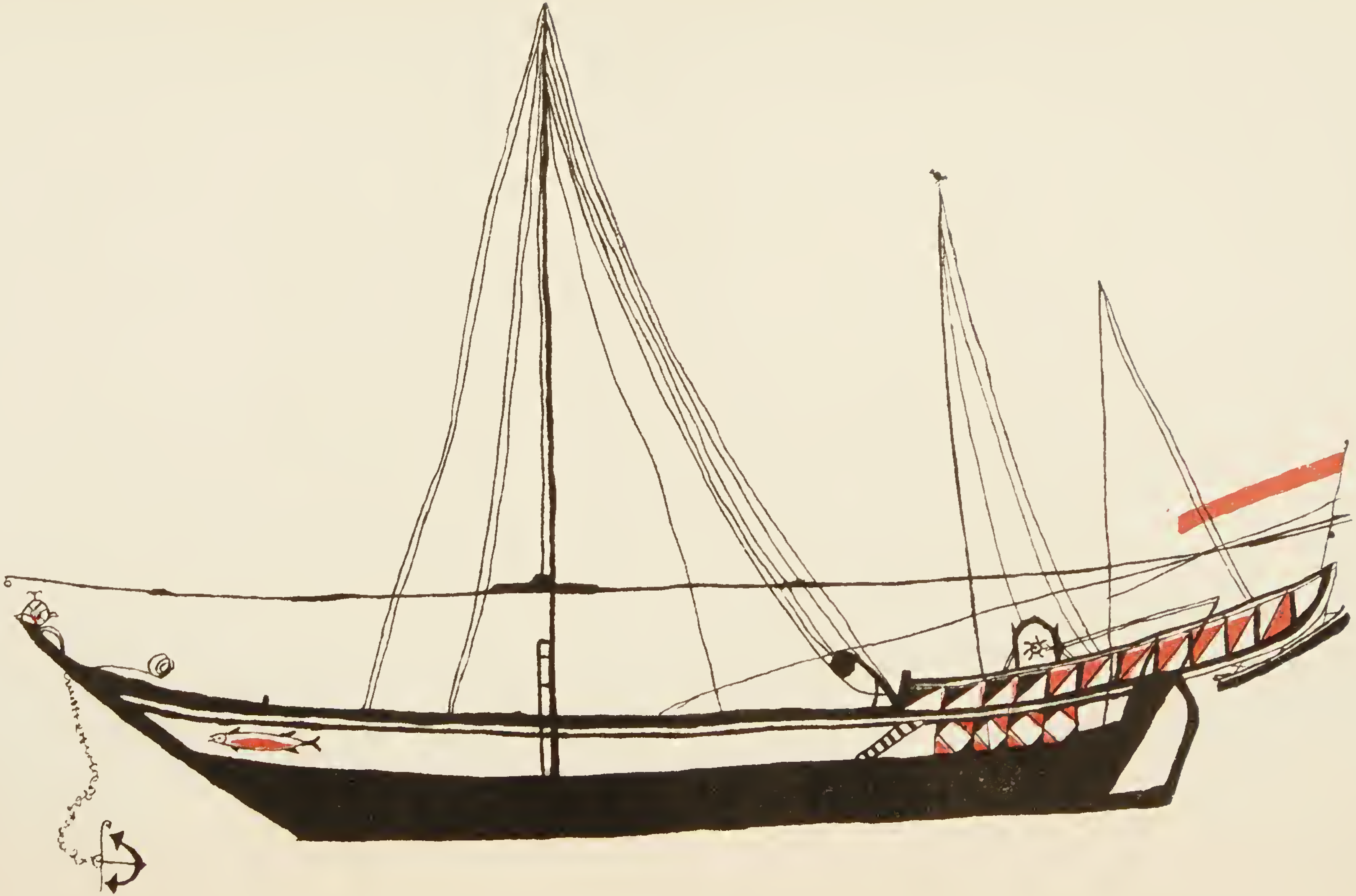

I. GHANJA

Last Days of
MAST & SAIL

An Essay in
Nautical Comparative Anatomy

by

SIR ALAN MOORE Bt

Illustrated by
R. MORTON NANCE
and with two drawings
by an Arab

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PREFACE

WHEN a man writes a book on the technicalities of a calling not his own a word of apology and explanation seems called for.

As long as I can remember I have been fascinated by ships and boats, which throw upon me a spell like that which is cast upon many by birds. Every one knows somebody to whom the recognition of birds and the acquiring of knowledge about them seems to come by instinct.

Before leaving school one of my favourite books was Boyd's *Naval Cadet's Manual*, published in 1860, a work in which sails and rigging are described minutely, with hardly any aid from illustration. The author of this Manual had been captain of H.M.S. *Ajax*, and an old pensioner, James Pike, who was employed at the Royal United Services Institution Museum, had served in her. The seamanship to which he had been brought up differed little from that of Nelson's day. He used to take me over the model of the *Cornwallis*, rope by rope, and tell me everything I asked. I can see him now drawing studding-sail gear in the air with his finger. From him I became well grounded in square rig.

Another friend and teacher was Navigating Lieutenant Edwin Williams, who was in charge of the ship models at the old Victoria and Albert Museum. A simple kindly man, loving his profession, he was always ready to

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discourse on the intricacies of running rigging, and the art of handling sails. He told me much of old sea ways and traditions: what a flogging was like, and how the officer of the watch used to swear when a lower stun'sail got foul of the whisker. He went to sea in 1857. I should have liked to give him this book, but he died during the war.

Another friend to whom I owe much, also a Naval Pensioner, is Mr. J. T. Major. He too went to sea when the three ensigns were still used in the Royal Navy. I think we must have discussed together every rope in use between the Armada and the Crimea. His knowledge, embodied in beautiful workmanship, may be realized in the models he has rigged at Greenwich, notably in those of H.M.S. *Queen* and of H.M.S. *Victory*, not Nelson's, but the ship in which Admiral Balchen and more than a thousand men were lost in 1744.

Besides these teachers, and many others of the Royal Navy and Merchant Service, I have learnt from the sea itself, as far as uncontrollable sea sickness has allowed and small yachts have given opportunity. Four years in the R.N.V.R. as midshipman and sub-lieutenant gave some insight into Naval ways. During the war I served as a Temporary Surgeon in the Navy. Since my office prevented my being engaged in any interesting nautical service I came to regard myself as on an expedition of one for inquiry into sailing vessels, and thus escaped much of the boredom that affects a passenger. I had, however, no intention of writing a book, and hence my notes were less complete than could have been wished.

My materials would have been more scanty still, and the book would certainly have never been written, had not my friend, Mr. H. H. Brindley, F.S.A., preserved and filed my letters to him describing the craft I saw. His interest was a great incentive to research. For this and for his advice and encouragement I am deeply indebted.

I cannot write on any nautical subject without being reminded of what I owe to Mr. Carr Laughton: from ringbolt hitching to the Calendar of State Papers he has been my teacher and guide. His deep and wide knowledge of history and archaeology is always at the disposal of those who seek it, and no questioner goes empty away.

Lastly I have to thank Mr. R. Morton Nance, the illustrator of this book. With his unsurpassed knowledge of ships and boats of all ages and nations he would have written such a work far better than I. Readers will turn with relief from the dry descriptions of my text to the lively presentments which illustrate it. Most of the drawings are from photographs taken during the war and from sketches of my own.

I had a fellow feeling for Dr. Thomas Browne, son of the famous physician and writer, when, at the end of the log he kept more than two hundred and fifty years ago, while serving as a surgeon in the Navy, I came upon a number of drawings of the craft he saw, and each one with its name.

Medicine and seafaring have long been allied. In the reign of Charles I the first known English writer on seamanship, Sir Henry Mainwaring, was honoured by the University of Oxford with the degree of Doctor of Physic. Mr. M. Oppenheim, whose works must be consulted by every student of Naval History, adds a medical qualification to his historical learning.

It will be remembered too that Mr. Lemuel Gulliver, ship's surgeon, told the Queen of Brobdingnag that he well understood the use of oar and sail ; and that later on in his career he commanded a small ship.

Fortified by these precedents I offer my book to the members of that increasing body which is now interested in nautical research, whom ' I beg rather amend it than condemn it ', for though it lacks much, it tells of things that are fast passing away ; and when the last bakers are growing old we may be content with half a loaf, knowing that soon there will be no bread.

A. M.

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I

INTRODUCTORY

IT is only in recent years that the study of nautical archaeology, and what, borrowing an old-fashioned zoological term, I have ventured to call comparative anatomy, has been seriously undertaken; and it was begun but just in time. It is a study helped by fewer memorials of the past than almost any similar inquiry. There are hardly any ruins, and such representations of early craft as remain often suffer from the nearly universal unfamiliarity with sea matters that still prevails on shore.

The use of sails is so rapidly passing away, that it behoves us, the last of the ancients, the last generation, perhaps, to know and to use the sail, the oar, the beast-drawn cart, and wind-driven mill to record what we saw of a dying age, lest in the blaze of the new era which blinds the majority to the interest, nay the existence of so many beautiful and ingenious contrivances of immemorial use, they be utterly forgotten, and lest when, sated with inventions or because they have ceased to invent, men turn again to a time recent but remote, they find no record of vanished but familiar things that furnished much of the setting of their grandfathers' lives.

How complete oblivion may be an example will show:

> 'As the vessel put out to sea, I kept my eyes on him for a considerable time, while he remained rolling his majestick frame in his usual manner; and at last I perceived him walk back into the town and he disappeared.'

Sir Joshua Reynolds enables us to picture Dr. Johnson watching the slowly departing Harwich packet, but who can call up an image of Boswell's ship, even so dim as his blurred eyesight allowed to his great friend?

Yet this was the ordinary passenger ferry, as familiar to travellers as the steamers of to-day; and where can any description of her be found? She parted friends, and she carried many to travel and adventure, yet it is doubtful if there is any one living who knows her rig, her build, or her name. In Harwich churchyard is a tombstone to the master of such a vessel of a somewhat later date. I wished as I read the inscription on it during a walk on shore that I could have had an hour's talk with the forgotten mariner to whom it was raised.

The war gave opportunities of seeing ships and boats beyond what was possible before, and I recorded as carefully as circumstances allowed every type with which I was not perfectly familiar. Herein lies my apology for this book and any value it may possess : it is the record of an eye-witness. It is far from being a description of all sailing vessels still existing, but it is an account of nearly every kind of craft seen by one keenly interested between the Orkneys and Aden, during the late war, and of a few types seen before 1914. It is of necessity incomplete. Some sorts of craft I have had many opportunities of examining and have become familiar with almost every rope; others I have seen only far off, and have had to sketch hastily with the aid of a glass, confining attention to outstanding features.

The collecting of exact information about ships and boats is never easy, because they are generally large, often in movement, and always some one else's property. In war time the difficulties of close examination are much increased. So few people stand on quays gazing at coasters, and following the lead of ropes, and the details of sails and spars, that the inquirer who does so is apt to excite suspicion. Even in peace time I have been mistaken for an inspector likely to find fault with gear, and have had to explain the reason for my interest in his ship to a puzzled and suspicious master.

Most difficult of all are dimensions. It is hardly ever possible to measure a ship, and often very hard to guess her length. This leads to the too great use of words like ' about ' and ' rather ', but it is unavoidable.

When things are rapidly vanishing, as sailing vessels are to-day, an imperfect record is better than none at all. Some mistakes are to be expected, since memory is never perfect, and notes which seemed full and unambiguous when they were made often turn out to be scanty and indefinite when consulted some months later. I believe, however, that the positive errors in this book are few.

I have called my work an essay in nautical comparative anatomy, because the resemblance between the problems of nautical research and of zoology is striking: in both there is adaptation to surroundings, and in both, what looks like a collective purpose to attain certain ends; yet in both the small changes by which the apparent purpose is attained are made without consciousness of their collective result. Further in zoology we often find an organ put to a use different from or additional to its original function: the elephant's trunk provides an example. In like manner the bowsprit when first developed was used chiefly to carry a grapnel, but later on a sail was set on it.

Useless vestiges are found in vessels as in animals, for instance the remains of the galley beak in certain boats in the Mediterranean.

This book is not a history of the evolution of craft; but where some knowledge of the past is necessary to the understanding of existing forms I have described the main lines along which development seems to have taken place, and where history particularly enhances the interest of any structure or fitting, or gives a meaning to what would, without it, be hardly worth mention, I have supplied it. The interest of the study of birds is increased by a realization of their relationship to reptiles, and in explaining this it is helpful to know a little of archieopteryx.

The study of nautical comparative anatomy is not of material things only, but of the working of the human mind, of its limitations, and of both the help and the hindrance to further invention, which invention itself offers or imposes.

In dealing with the past I have, in nearly every instance, gone to original sources, and have formed my own opinions from them. These sources are known to every one who studies the subject, and it is not necessary to quote chapter and verse for every statement, especially when conclusions are based on cumulative evidence, and not on any single statement or picture.

Technical terms are used freely. Their employment is necessary unless description is to become so complicated as to be tedious. Technical terms are invented, often unconsciously, to simplify what without their use cannot be shortly expressed. If any one doubts this let him try and describe so simple a manœuvre as putting a sailing boat about, or even let him paraphrase those five words without using technicalities. This manœvure of 'going about' supplies a good example of the unconscious creation of a technical term. To go about formerly meant to turn or go round—we remember the witches in Macbeth 'thus do go about, about'—but turning a sailing vessel round requires a particular handling of rudder and sails, and so in time the term came to be descriptive of this manœuvre as well as the change of position resulting from it.

A few terms, it is true, neither shorten the expression nor add anything to the meaning of an unnautical equivalent: we say that a sail is 'bent' to a yard, and might as well have used 'attached' instead of 'bent'; but to avoid the use of these words, while doing little to help those unversed in sea language, would jar upon others to whom it was familiar, and would make an otherwise technical passage read falsely. Here and there a shore word has been used where a sea term might have been expected, but generally things have been described in such a manner as to be easily understood by a seaman.[1]

In making my observations it was surprising to find how small an interest professional sailors took in the by-paths of their calling. It was to be expected from those trained entirely in steam, but even those who had served their time in sailing ships, though they would discuss the craft with which they were familiar, were strangely ignorant of the small vessels, the coasters and fishing boats. It had not occurred to them that there could be any interest in such insignificant craft. They saw them as the driver of a highly-powered car sees a butcher's cart or a donkey barrow, as slow, out-of-date contrivances, distressingly numerous, and only demanding as much attention as is required to avoid running into them. The men trained only in steam see nothing in the largest sailing ships but nearly useless survivals. A lieutenant, R.N.R., told me with indignation how no one would look at, far less photograph, a beautiful ship that passed near under full sail. He realized, as did his namesake[1] of 300 years ago, that there is no finer sight than a ship in her bravery.

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[1] Sea speech is so rich, and can express such fine shades of meaning, that to avoid using it nearly always sacrifices some nice distinction. Consider, for example, how, in Naval language, the varying degrees of giving freedom to a rope which bears a strain may be expressed: 'Check', that is, let out a very little and stop it at once. 'Ease', let out a little more than is implied in 'check' if the rope referred to is the sheet of a sail; but 'ease handsomely' in lowering a weight means lower very slowly and delicately and stand by to take a turn, i. e. make fast, at once. 'Pay out' and 'veer' sometimes mean almost the same thing, and express continued action: 'pay out' suggests the actual handling of the rope in the process of veering. 'Let go' is final and implies that responsibility ceases with obeying the order.

Nor is knowledge in these matters entirely without practical use. In one ship those who navigated were secretive and did not like telling where we were. At least once I was able to guess that we were near Ushant from the tunny fishers we passed. To recognize local craft might be of service to the fog-bound mariner uncertain of his reckoning. Before now ships have been at a loss to know whether they were in the Bristol or the English Channel, and the sight of fishing craft would help to solve such doubts.

During the war several times submarines were reported as masquerading under canvas. A practised eye detects at once an unusual rig, or even a sail cut in an unusual manner, and I cannot help thinking that such disguises would not deceive a coasting sailor.

An interest in these matters is easily aroused if they can be shown to affect everyday life. The appeal of history is often too indirect for a man so concerned with immediate realities as is a sailor; but it does not seem unreasonable to suggest that the education of a man who uses the sea should include observation of what passes thereon. In olden days men saw this. The early charts, such as those of Waganaer's *Mariners' Mirrour* in the sixteenth century, are full of pictures of the craft peculiar to the seas represented; but at the present time, save now and then for a picture of a pilot boat in the margin, this practice has been given up.

My hobby was one which, though it might seem useless and eccentric, nevertheless roused a fellow-feeling in the minds of men who had spent their youth in handling sailing ships. More than once a messenger from the officer of the watch has brought me on deck to look at a strange sail, and my first view of a Humber keel under canvas was the result of a summons from a sympathetic admiral.

---

[1] Capt. John Smith, sometime Governor of Virginia.

II

SAILS AND RIG

The rigs familiar to all sailors, those which may be called the universal rigs, that is to say, those carried by the larger craft, differ hardly at all among the nations using them; and the reason is obvious: a ship is her own advertisement, and any improvement soon becomes common property. Nor is this uniformity a recent thing. In the past there were more differences than there are at present, but for four hundred years most of the largest foreign-going ships of all countries have been rigged in essentially the same manner at any period chosen. The principal ships of the English and Spanish Fleets in Queen Elizabeth's time were nearly alike in sail plan. Marked differences in the hull were greater and lasted longer. Even to-day a ship often shows her nationality by her build.

The smaller vessels are less uniform, though several types are widespread. Where, however, a vessel is used for a particular purpose only it tends to differ from craft in general use; and where local conditions are peculiar a strongly individual type may develop, as in the American coasting trade, which has given rise to the many-masted fore and aft schooners, among which are to be found some of the largest sailing ships in the world.

The causes which produce the greatest individuality are found in coast fishing and in local trade, that is to say, amongst the smallest craft, manned by people who are a class apart.

A man in a coasting brigantine is familiar with the appearance of ships and barques, and he may have sailed in ocean-going vessels. His voyages are shorter and he is more dependent on tides than the deep-sea man; but in the main he has the same problems to tackle, and what is useful to both will be common to both. Sometimes a new method or fitting has arisen in small ships and been adopted later by the large; for instance, the gaff that replaced the old mizen yard. Other improvements were tried first in the large ships, and were then used by the small; double topsails for example.

On the other hand, the bargeman of the Thames and Medway and the rivers of Essex, though he is familiar with the appearance of ships of wider range, has generally never handled any craft but his own, and he has little need to copy from others because the conditions of his work are different. A type that is old fashioned is not necessarily out of date, for where scope is limited, tides and weather can become perfectly familiar, a satisfactory solution of the problem of what sort of craft is required is reached sooner, and once reached changes little, till some totally new disturbing element is introduced. So, a Thames barge, though the main features of her rig are old-fashioned, is not behind the times. Her gear is often of the best, and she is not backward in the use of flexible wire and mast winches.

A problem, however, may sometimes admit of several solutions which may be reached individually by men who never meet or hear of each other's results, and so with craft. The wherrymen of Norfolk and Suffolk and the keelmen of Yorkshire and Lincolnshire both carry cargoes up narrow canal-like rivers bounded by low shores, and both have produced suitable vessels. Yet the wherry is the opposite of the keel in almost every conceivable detail of build and rig. Again, the bawleys of Gravesend, Leigh, and Rochester catch shrimps in a tidal estuary encumbered with mud-flats, and so do the shrimpers of Flushing, yet they are utterly different. Why is it? Is it to be explained by small differences in environment, only to be perceived by long acquaintance? or would the boats of the Thames and Scheldt do equally well if they changed places? Doubtless many influences are concerned: custom, accident, national character, materials available, all have more or less weight, but the puzzle remains.

Sometimes like conditions will produce like effects without human interchange, just as Tasmania has produced a marsupial that resembles a dog; but, generally speaking, diversity under similar conditions is more often found than resemblance arising from the meeting of like needs.

To sum up: where conditions are nearly the same, and there has been a free exchange of ideas, something like uniformity has been produced; but specialization, localization, and peculiar conditions give rise to diversity of types. There are exceptions, but these are the rules.

Sails are divided into two great groups: square sails and fore and aft sails. The difference is this. The wind in propelling a vessel presses always on the same surface of a square sail—the after surface. The sail may be squared away before the wind, its yard, that is, at right angles to the direction of the wind, or it may be braced up at an acute angle to the direction of the wind, with either port or starboard yard-arm forward, but always, while the action of the wind is to drive the ship ahead, the same surface is to windward. If, by accident or intention, the wind comes to blow on the other side of the sail, the foreside, its action is to stop the ship's way, and the sail is said to be aback. When a ship goes about, and so brings the wind upon her other side, her square sails must be turned right round to meet it.

A fore and aft sail, on the other hand, propels a vessel by receiving the wind on either side, according to its relative direction, and when the vessel goes about nearly all fore and aft sails merely swing from one side to the other and what was the weather surface becomes the lee.[1]

There are five principal kinds of what may be called primary sails. By primary sails is meant here those which supply the main driving power in ordinary weather. A sail capable of being used as a mainsail is a primary sail. Vessels can be, and are, rigged with no other canvas for ordinary use than one or more of the following sails, though nearly always with secondary sails as well.

The primary sails are Square sails (fig. 1), Lateen sails (fig. 2), Spritsails (fig. 3), Gaffsails (fig. 4), and Lugsails (fig. 5).

With a few exceptions the principal sails of all vessels belong to one or more of these groups, though sometimes the forms are modified. All of the above may also be used as secondary sails.

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[1] A fore and aft sail, such as a dipping lug, which ordinarily is lowered and hoisted again on the other side of the mast when the vessel goes about, is said to be aback if left to windward of the mast. Jibs and staysails are said to be aback when sheeted to windward of the mid fore and aft line of the vessel.

All save the first group are fore and aft sails.

Sails, the action of which helps the principal sails, whether by balance or actual driving power, and those used on particular occasions, may be called secondary sails. Such are staysails, jibs, fore and aft topsails (fig. 6), the square topsails and topgallant sails of schooners (fig. 7), the flying squaresails[1] used for running by fore and afters (fig. 8), studdingsails (fig. 9), spinnakers (fig. 10), trysails (fig. 11), and a few others.

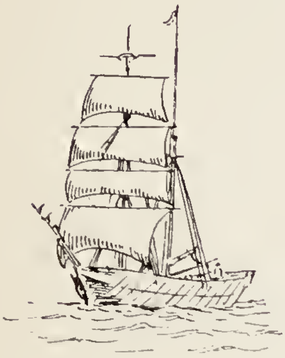
Fig. 1

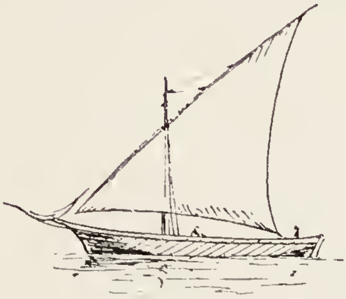
Fig. 2

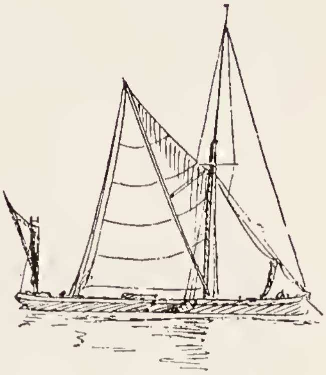
Fig. 3

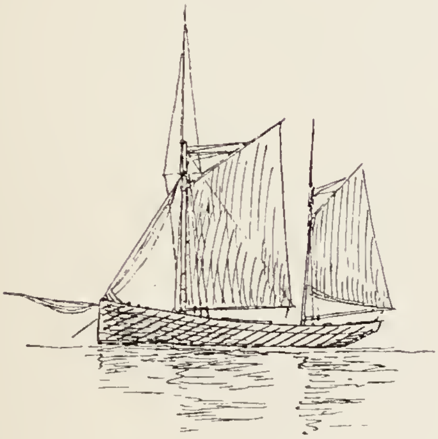
Fig. 4

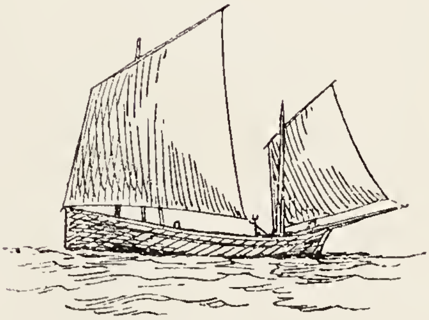
Fig. 5

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[1] 'Squaresail' is the technical term used in fore and aft rigged craft for a kind of sail used in running before the wind. Otherwise 'square sail' is merely a convenient comprehensive term contrasting with 'fore and aft sail'. The sixteenth and seventeenth-century use of 'cross sail' was in some ways better.

It must be borne in mind that such a classification is devised as an aid to thought. It is not completely true; in some rigs no precise line can be drawn between primary and secondary sails. The division is, however, useful in grouping the various rigs.

Vessels are distinguished by names signifying, whether by meaning or custom, their function, build, or rig. These names are often capricious, inconsistent, and changeable.

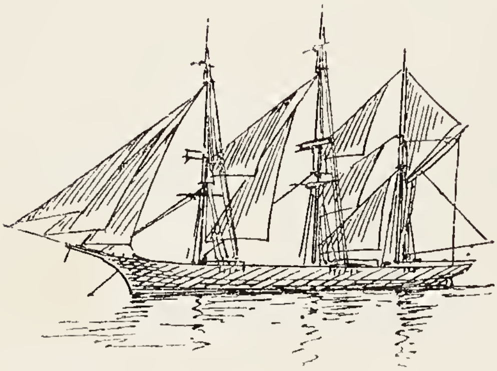

Fig. 6

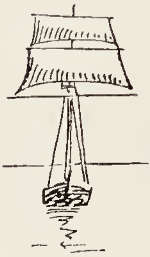

Fig. 7

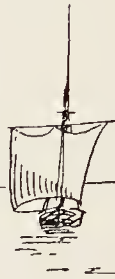

Fig. 8

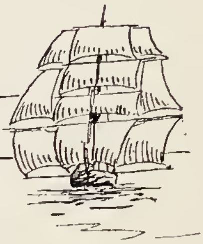

Fig. 9

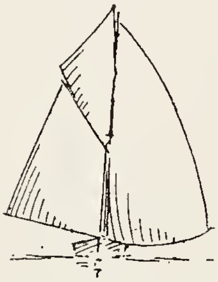

Fig. 10

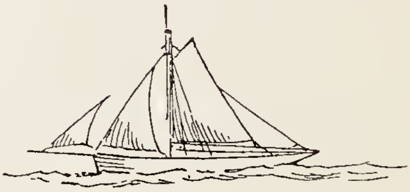

Fig. 11

In speaking of a vessel's rig we mean a descriptive name that depends for its significance chiefly upon the shape, arrangement, and number of her sails.

At the present time sailing vessels, the larger sort at least, are usually distinguished by their rig; but before the eighteenth century the names of the various classes of vessel were generally associated with build and function rather than with sail plan.

As rigs became more and more varied certain of them became usual in craft of a particular sort, and the name of that type came to be applied to any vessel rigged in the same way. A good example is developing at the present time. Any flat-bottomed coaster with a square bilge is commonly called a barge, whatever her rig; but since the barges that are most numerous are rigged in a particular way, with a sprit mainsail, that rig is often called the barge rig.

The reverse process is found in the word ‘smack’, which in the late eighteenth and early nineteenth century meant a small cutter-rigged vessel, but now is almost exclusively applied to fishing craft, however they may be rigged. I have, however, heard an elderly coasting skipper speak of a small ketch as having been formerly smack-rigged.

There is a number of words of long use that nevertheless have changed their meanings again and again in different times and places, and in reading of the past or of a foreign country it is never safe to assume that a familiar name has its modern or familiar meaning.

At the present time ‘brigantine’ is the name given to a two-masted vessel square-rigged on the foremast and fore and aft on the main, and ‘felouka’ is the word used in Egypt for a small boat rigged with a lateen sail when rigged at all; but a print of the early eighteenth century entitled ‘Brigantin donnant chasse a une felouque et prest a la border’ shows a small galley-like craft, with oars and two masts bearing lateen sails, overtaking a smaller vessel also provided with oars and rigged with a spritsail and jib.

Misunderstanding and false analogy have given us names. In Northern Europe the word brigantine acquired almost its modern meaning during the eighteenth century; it was often shortened to brig, and for a time ‘brig’ and ‘brigantine’ were used indifferently for the same thing. In the nineteenth century the brigantine shed the square canvas on her main topmast, and the word brig continued in use for craft in which the mainmast had become properly square rigged. Since the brig was fully square rigged and the brigantine only partially so, men came to think the termination ‘tine’ somehow implied absence of square canvas; so when craft with three masts, carrying square canvas on the foremast only, became common they were called by supposed analogy barquentines because they had the same number of masts as barques but were square rigged on only one instead of two. The Americans, I believe, invented the even more horrible word *shipentine* for a four-masted barque, because in addition to the three square-rigged masts of a ship she carries a fore and aft rigged jigger mast.

Again a billyboy[1] was properly a round-sterned, clinker-built trading craft peculiar to Yorkshire and rigged as a cutter with a square topsail, but now the name is used for almost any ketch-rigged coaster.

Frigate, sloop, and *pinnace* have been familiar sea words for generations. A frigate in the sixteenth century was usually a large boat. By the eighteenth century the word meant a cruising man-of-war carrying guns on one complete deck. With the introduction of steam this precise meaning became somewhat dimmed, and the word is now almost obsolete. At Malta there is a kind of very small boat called a fregatina—a frigatelet, so to say, preserving the old meaning.

Sloop has long denoted a rig and a rate. There will be something to say later about the rig. The rate used to be that of a ship smaller than a frigate and commanded by a commander and not a post captain. It implied no particular rig in this sense. In recent years the name has become loosely applied, and during the war was given to a class of vessel of some 1,200 tons displacement, fitted for mine-sweeping, and used for many purposes.

Pinnaces are ships' boats as they were in Queen Elizabeth's time, but the word has no longer the additional meaning it then bore of a small independent man-of-war.

Galleys till lately were to be met any day in the Downs, and were not unlike the boats generally used as a Naval Captain's galley; but both differ greatly from the old Mediterranean galleys, though like them they have great length in proportion to beam.

A galleasse in the sixteenth century was a large Mediterranean vessel built with the idea of a sailing ship that could keep the sea in weather that would have driven a galley to seek shelter, but which could be rowed if necessary: an example of a name depending chiefly on function.

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[1] During 1915 an old dismantled billyboy was lying at Grimsby.

In England it was used for a certain build and proportion. To men with antiquarian tastes it gave a pleasant historical atmosphere to their voyage to learn that the vessel in which they were visiting Kiel two years before the war was a *galeass* in the speech of those parts, because of her ketch rig.

It is almost as though the sailors of Europe had certain words that they mean to preserve, however much their meaning may change. There are in consequence two interesting lines of study, of names and of things. They cannot be entirely separated, and are often mutually helpful.

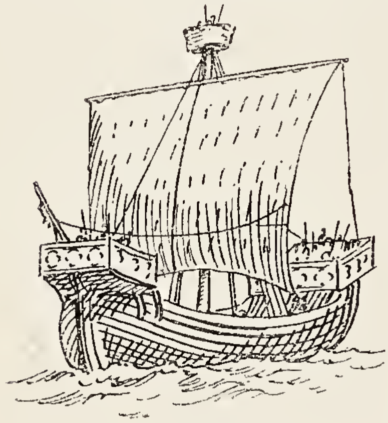
In these last days when sail plays less and less a part in the life of the world, the names are becoming more and more loosely and carelessly applied, and many will soon lose the meanings they now hold. Great care has to be used in talking to the younger generation of seafaring men to prevent misunderstanding, for as the old sea art decays so does the speech of those who are but half masters of their art.

III

SQUARE SAILS

SQUARE RIG ON A SINGLE MAST. THE KEEL

When Henry V sailed for the campaign of Agincourt nearly all ships in the seas of Northern Europe were fitted with the one mast and single square sail [fig. 12][1] that had been in use as far back as record goes since Roman times, but from the beginning of the fifteenth century this simple rig has increasingly given way to more complex sail plans. Though tributaries have mingled with the main stream of development the rigs used by the largest European sailing vessels of to-day, the barques and ships, including those recent forms with four and five masts, are the direct descendants of the ancient rig. But with these late descendants that seem to differ so much from their ancestor there is still used in England a type of vessel bearing almost unchanged the single square-rigged mast.



[Fig. 12]

The Trent and Ouse are narrow canal-like rivers which flow into the great estuary of the Humber. In these waters a kind of barge serves for the local trade. In the lower wider parts of the estuary these barges are fore and aft rigged and are known as sloops; those which ply principally in the upper waters are square rigged with one mast, and are called keels.

One day in 1915 I talked with a keelman in Immingham Dock. He spoke in a dialect that from its very broad accent required close attention to an ear used to southern speech. I asked him how his craft sailed, and he replied that she would ‘ lig gainer than a fower and after ’, that is, that she would lie nearer the wind. He told me she was fourteen years old.

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[1] At this time a bowsprit was also fitted but did not carry sail.

Some time later, our ship being under way near Hull, I was summoned on deck to see a keel under sail. It was blowing pretty hard. She was standing across the river with the wind on her quarter, and with her reefed sail straining from her yard, lowered half-mast high, she gave a good idea of a medieval ship as she bustled and wallowed through the choppy waters, till, perfectly handled, she disappeared into a narrow dock entrance (fig. 13).

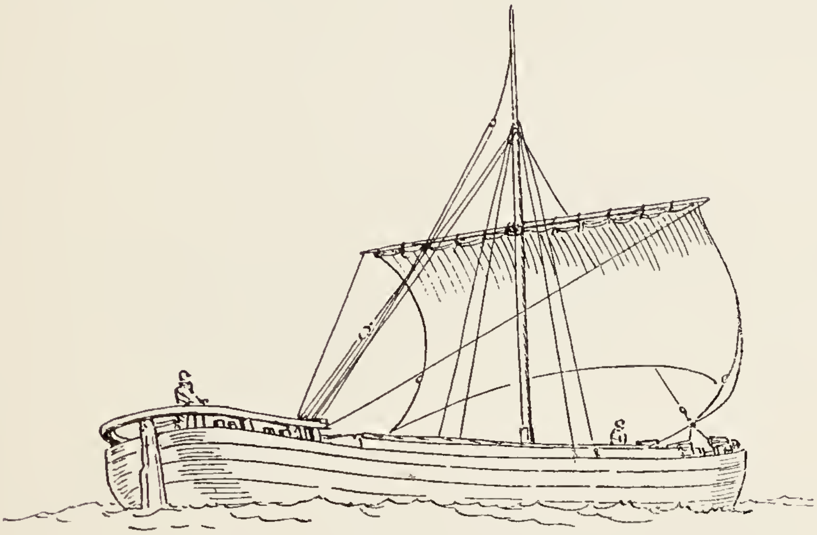

Fig. 13

It is difficult to convey the satisfaction of such a sight. You have the lively spectacle of a vessel under sail, which always suggests energy under control and a mastery of nature, and at the same time you see an ancient handiwork still vigorous, not a ruin which with its interest provokes regret and a sense of loss, but something that while reminding us of the flight of time yet links us with the past and makes us share our ancestors’ lives.

The secret of the keel’s survival is to be found in her power of lying close to the wind. Medieval ships could sail close-hauled; but it was found in later years that fore and aft-rigged vessels could be made to lie nearer than square-riggers, and therefore in narrow waters where it frequently happens that to progress at all a greater ability in windward work is required than at sea, the square-riggers gradually gave way as competition became keener. The keelmen, however, instead of altering their rig modernized it, and by the use of wire and winches have produced a square-rigged vessel as close-winded and as easily handled as a fore and after.

The mariners of the Bosphorus, on the other hand, who seem to cling to square canvas as much from habit as for any other reason, often set fore and aft sails that sit so badly and belly so much that their natural advantage is lost, and it is evident that competition and a desire to make their craft sail as well as possible have little to do with their choice of rig.

Keels are very solidly built of oak. One that I was able to examine minutely was fifty-eight feet long, fourteen feet two inches in beam, and could carry ninety tons of cargo. It is on her that the following is chiefly based.

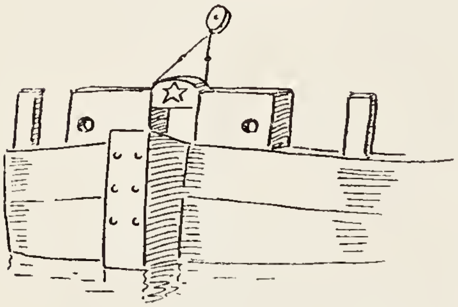
Fig. 14

Keels are brightly varnished with touches of colour here and there. The bilge is square like that of a Thames barge; but whereas the barge has some softening of her lines at the bow, and a run that is almost elegant, the keel has neither entry nor run. Her bow is almost square: it is a wonder that planks can be so much bent (fig. 14). Her stern is a little more rounded: were it as square as the bow there would be dead water astern and she would be slow on her helm and therefore unfit for narrow waters.

She has short decks at either end connected by gangways on each side of her hatch coaming, but most of the space between stem and stern is occupied by her great hatch. Under the deck aft there is a cabin, reached through a companion on the port side. The water cask stands in the corresponding place to starboard. A hatchway with a hinged cover abaft the windlass forward gives access to a small forecastle. The windlass is of the old type, of wood, worked by handspikes, with a central pawl between the two barrels. Such a contrivance seems wonderfully clumsy and slow in working, and it is strange that it should have survived to the present day. After each heave in which the barrel is turned through less than a semicircle, the handspikes must be unshipped and placed in fresh sockets. Such a machine was used in nearly all merchant ships till comparatively recent times (fig. 15).[1] Falconer, in his Marine dictionary of 1769, describes a windlass in detail.

'It requires', he says, 'some dexterity and address to manage the handspec to the greatest advantage; and to perform this the sailors must all rise at once upon the windlass, and, fixing their bars therein, give a sudden jerk at the same instant, in which movement they are regulated by a sort of song or howl pronounced by one of their number.

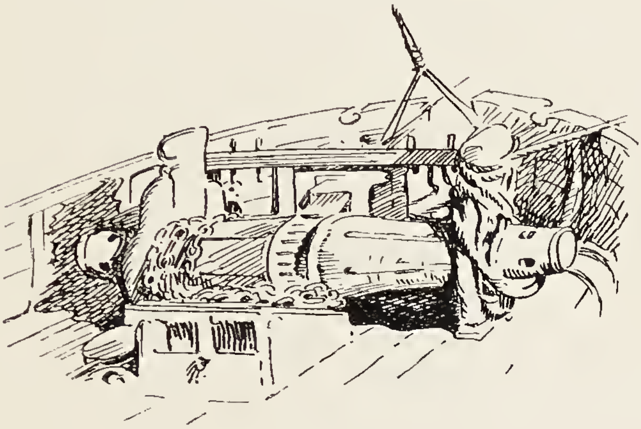

FIG. 15

The most dexterous managers of the handspec in heaving at the windlass are generally supposed the colliers of Northumberland: and of all European mariners, the Dutch are certainly the most awkward and sluggish in this manœuvre.'

Falconer in his *Shipwreck* also refers to this skill of the Northumbrian colliers:

> The second powers and office Rodmond bore:
> A hardy son of England's farthest shore!
> Where bleak Northumbria pours her savage train
> In sable squadrons o'er the Northern main;
> . . . .
> Expert to moor, where terrors line the road;
> Or win the anchor from its dark abode.

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[1] The drawing shows the kind of windlass used, but is not copied from a keel's.

Most coasters retain a form of the old windlass, but instead of handspikes the barrel is turned by gearing worked by pump handles. About 1908 at Portland I saw a ketch-rigged fisherman that hailed from Emsworth weighing with handspikes and at the same time hoisting her mainsail by steam.

In 1915 the dandy-rigged Harwich pilots, or at least one of them, was using the same primitive machinery for her anchor and yet had a motor for propulsion. I have sailed in a small Dutch *boeier* yacht in which an old-fashioned windlass was fitted, but it is only in such small craft that it is still to be found. Perhaps its survival in keels is due to the fact that they do not often need to anchor.

The keel I examined had eighteen hatch covers much cambered and numbered in Roman figures. The mast was stepped through the fore part of number VII. Here is probably departure from ancient practice, for there is good reason to believe that the mast of the medieval ship was placed exactly amidships.

The mast can be lowered and is fitted in a tabernacle, which the keelmen call a *lodget.* It sticks up about ten inches above the hatch. The heel of the mast rests on a step which is a vertical piece of timber filling the lower part of the lodget as far or nearly as far as the deck level.

The stem is very stout and does not rise above the level of the gunwale. On either side are massive oak knightheads, higher than the stem, prominent in the absence of bulwarks and pierced by the hawse holes. Between the knightheads in the keel above mentioned was a piece of wood, rounded from side to side above, and bearing on its forward face a star. It did not occupy all the space between these timbers, and there was room for a cat to pass beneath it from the foredeck to the stem (fig. 14).

Round each bow is a row of timber heads, five aside. So bluff are the bows that the timber heads next the knightheads face forwards.

Round the stern is a heavy wooden rail painted green. Between the three timbers supporting this on either side are short timber heads, with outward sloping tops painted red, two between each main timber. Right aft the rail has no support, to leave play for the tiller which lies beneath it. The sternpost is as low as the stem. The rudder is heavy and the tiller fits into a hole in the rudder head (fig. 22).

Most keels use leeboards, but this one had discarded them. She had, however, neat little leeboard winches fitted at the fore end of her stern rail. The drums were vertical and were turned by handles fitted above the rail when necessary.

Immediately before the main hatch was a cargo winch in which power was gained by the turning of a small cog, eccentrically placed within a larger cog. This larger cog was fitted with internal teeth directly revolving the barrel to one end of which it was joined.

The gear was simple and consisted of the following:

Standing Rigging.	*Running Rigging.*
Forestay	Main tye and halyard
two shrouds aside	tacks
backstay	sheets
	braces
	buntline
	bowline
	topsail tye and halyard
	topsail sheets.

Nearly all the gear was of wire; for keels, though their rig is so old-fashioned, have not disdained modern appliances. They abound in small winches, and this enables one to be handled by a man and his wife.

The forestay had a chain purchase rove through iron blocks, the lower of which was attached by iron arms, each in two links, to the knightheads.

The shrouds were set up with lanyards rove through pear-shaped dead eyes.

The single back stay was set up to the after-coaming of the hatch not quite amidships.

At the present time the sails of ships are not bent directly to the yards but to an iron bar, or a wire called a jackstay, that runs along their upper surface. Since the jackstay to which the sail is bent is above the yard, the sail when set hangs before it and hides it, except for the yardarms projecting on either side. Before the nineteenth century sails were bent to the yard itself, and when they were not bellying in the wind the yards were not hidden, and caught the eye much more than in a modern ship. The keel follows the old practice (fig. 16 shows the two methods). I counted eighteen robans,[1] irregular, some with three and some with four turns, by which the sail was bent to the yard. The sail is also furled beneath the yard (fig. 17) and not upon it as has been usual in ships for 100 years and more (fig. 18).

When alongside a quay the yard is lowered and placed fore and aft inside the rigging. This was a medieval practice, given up when yards had grown to an inconvenient size.

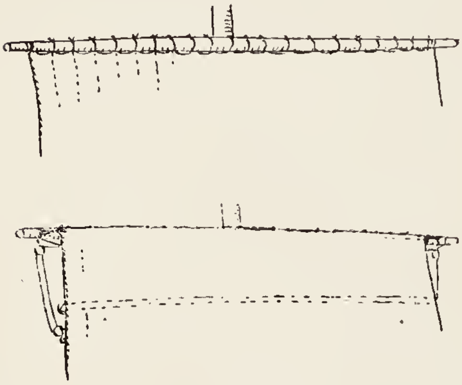

FIG. 16

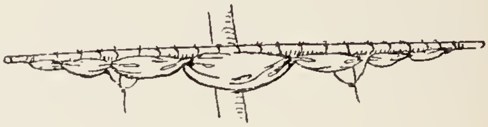

FIG. 17

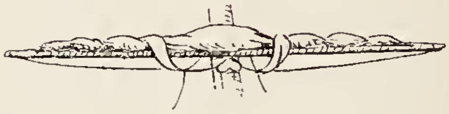

FIG. 18

A ship's lower yards are permanently fixed aloft by means of an iron gooseneck, that merchant seamen call a truss (fig. 19). In the Navy the power of lowering them was retained to the end, but jears had to be rove specially for the purpose, and in ordinary use the yards were slung aloft (fig. 20). The jear blocks may be seen to this day hanging beneath the tops of H.M.S. *Victory*.[2] Till the seventeenth century, however, the lower yards were hoisted and lowered like any other with tyes and halyards [fig. 21], and this is the method in the keel. Since she uses wire her tye is single.[3] One end has an eye which goes between two lugs on an iron ring that encircles the yard amidships. A pin goes through lugs and eye and takes the whole weight of the yard. From the yard the tye runs upwards and passes over a sheave in the masthead and so comes to the upper halyard block, to which it is made fast. The halyard, also wire, has its standing part fast to this block, which is single. It then reeves through another single block attached to the after-coaming of the hatch and then through the upper block. The fall comes to the lower of two winch barrels fitted in uprights against the coaming. This bringing the halyard aft to the coaming is in order that the hatches may be clear, but from its obliquity the halyard must give valuable additional support to the mast.

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[1] Ro bans, i. e. yard bands, Ro = yard. In the Merchant Service the word was corrupted to Rovings, probably from a supposed connexion with the word Reave. The Navy kept the older term as long as there were any square sails to be bent.

[2] Written before she was dry docked.

[3] Seventeenth-century tyes were double for the lower yards.

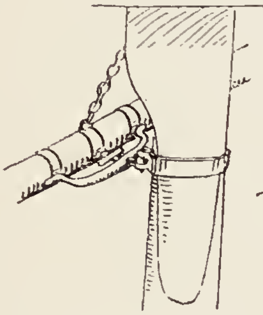


Fig. 19

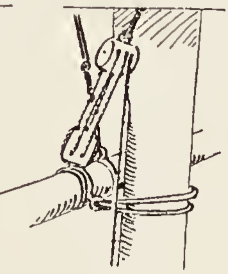
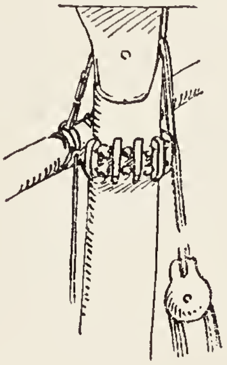


Fig. 20



[Fig. 21]

The sheets are single wires and reeve through blocks on deck within the forepart of the stern rail to winches fixed to the after ends of the fore and aft hatch coamings. The tacks are similarly fitted forward, leading through blocks placed between two timber heads; but the winch barrels are in one framework placed immediately before the forward hatch coaming, and so partly beneath the barrel of the cargo winch which is athwartships.

The yard is controlled by braces of ordinary rope. They are formed by a single line with one end fast to each yard-arm. The bight comes round by the halyard winch.

To keep the yard to the mast in hoisting and lowering and when the sail is reefed, a parrel is fitted, consisting of two rows of trucks. The parrel was a fitting that medieval artists usually noticed, and with one or more rows of trucks is often seen in pictures.

The keel I examined had two buntlines—the keelman called them *buntines*—that led over sheaves fixed in cheeks on the mast on either side of the tye sheave and then down before all to the foot of the sail.

It is, however, I think, more usual to have a single line coming to a short span at the foot of the sail, an arrangement I noticed in several other keels.

Bowlines are used, or rather a single bowline, fitted as is usual in ships nowadays: one end is fast to the forestay, the other is led through a cringle on the luff of the sail low down and belayed anywhere convenient.

There are two deep reefs, and like a ship's the keel's sail is reefed at the head and not the foot.

In the light of Mr. H. H. Brindley's researches into medieval reefing gear, these reefs are interesting.

Seamen of the Middle Ages used reefs, but in the time of the Renaissance they seem to have been discarded in favour of bonnets laced to the foot of the sail. They reappeared in the seventeenth century when the great size to which topsails had developed made their want felt, and since that time their use has continued, and that of bonnets declined. Did craft like keels use them when ships gave them up, or did they follow the example of the deep-watermen and reduce canvas not by gathering up the head of the sail, but by taking a piece off the foot ?

The keel differs in one important feature from the rig of the Middle Ages. She carries a topsail[1] (fig. 22). More than two years after first examining a keel I saw from the windows of a southward bound hospital train a number of keels, some half-dozen, under sail. Four of them had topsails set. It was almost worth a severe illness to see them and to complete observations in which that sight had been lacking.

When topsails were introduced in the fifteenth century they had little yards and their hoist was small [fig. 23]. The topsail of a keel is also shallow, but the yard is almost as long as the lower yard (fig. 24). It is hoisted like the mainsail by a tye passing over a sheave in the mast. The halyard that I examined was of ordinary rope, and for purchase rove through one single block at the end of the tye. The fall came to the upper of two barrels set in uprights at the after end of the hatch coaming.

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[1] Since writing the above I have been told that a staysail is sometimes set chiefly to pay off the keel's head after going about.

The topsail sheets led through sheave holes in the lower yardarms and through sheave holes in cheeks fixed abaft the yard near the slings, and so down.

For shoving off and occasional propulsion keelmen use a setting pole or quant which they call a *stower* (pronounced stoer). The lower end is fitted with wide iron jaws.

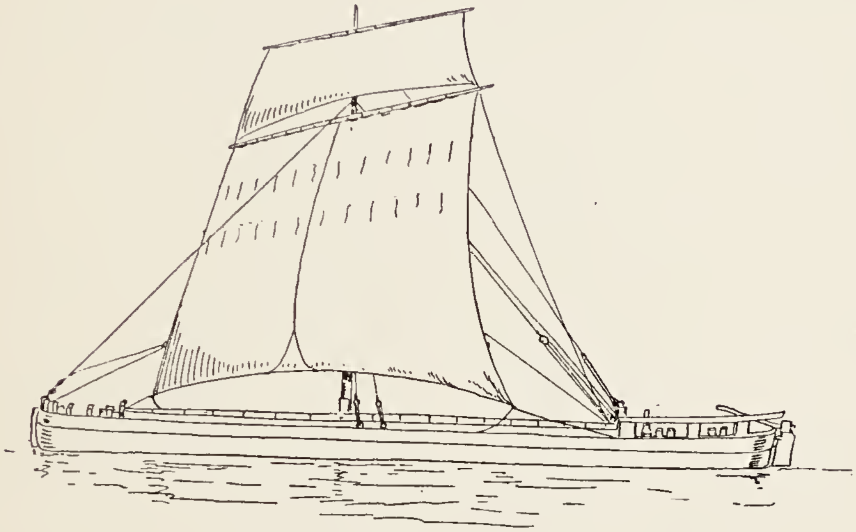


FIG. 22

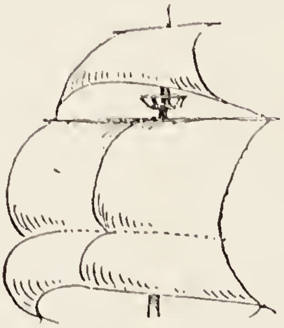
In the Humber are also to be found craft resembling keels, but mastless. They have greater beam in proportion to length, and are massively clinker built. Such may have been the ancestral form from which the modern keel has developed.

She may be of Dutch origin. New Holland south of Hull, in Lincolnshire, preserves the memory of Dutch influence in those parts. Her hull certainly suggests it, with its massive oak rails and touches of colour ; but there is nothing especially Dutch about her rig. In Holland, as in most parts of Europe, there were formerly one-masted vessels carrying only square canvas when the rigs had become rare at sea, but so there were on many English rivers. Old maps and pictures show them on the Thames, and trows on the Severn were square rigged within living memory.

So that whether or not her build was foreign in origin the tradition of her rig is unbroken from the ships of the early Middle Ages.[1]

An often quoted story tells how once a keel made a voyage to the Thames where a puzzled port official, to whom 'keel' meant nothing as a descriptive name for a vessel, finally entered her in his books as a one-masted brig. The brig's ancestry is so complicated that the term cannot be allowed, but had he put her down as a one-masted ship the name would have been just.

Every one has heard of the Tyne keels, and knows that they row and carry coal. I made inquiries on visiting that river in 1915 and was told that they still rowed, but that there were only three remaining. I never had the luck to see one. Most of the lighterage work in the Tyne is done by sharp-sterned craft called wherries.



[Fig. 23]

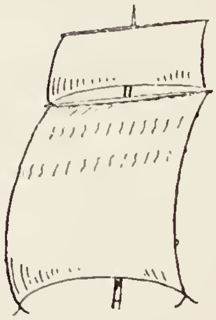


Fig. 24

During the war I saw no other craft with a single mast and that carrying square canvas only.

There are Norwegian vessels so rigged, or were during the war, so I am told; but it is to be feared that the introduction of motor engines will soon abolish their sails. In 1908 I saw a small Norwegian boat with high stems in the neighbourhood of Putney, looking as though she had sailed out of the Bayeux tapestry.

Just before the war small boats used in the River Roach, and the creeks adjoining in connexion with the oyster fishery, were often to be seen carrying a single square sail. These probably survive.

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[1] A capital railway poster, published in 1923 or 1924, of the King George Dock at Hull, shows a good likeness of a keel alongside a steamer.

TURKISH ONE-MASTED SQUARE RIGGERS

We call vessels square rigged if any of their 'Primary' sails are square, although they may carry a number of fore and aft sails as well, and this is because their sailing is conditioned by their square canvas. Thus a barquentine is considered a square rigger, though she has only one mast of three square rigged; for she can lie but little closer to the wind than a ship square on all three masts, and in going about must swing her head yards before she can gather way. She is therefore slower in stays than a fore and after. A schooner, even though she carry light yards on her foremast, is less dependent on them and can sail without using her square canvas at all, and is therefore not reckoned square-rigged.

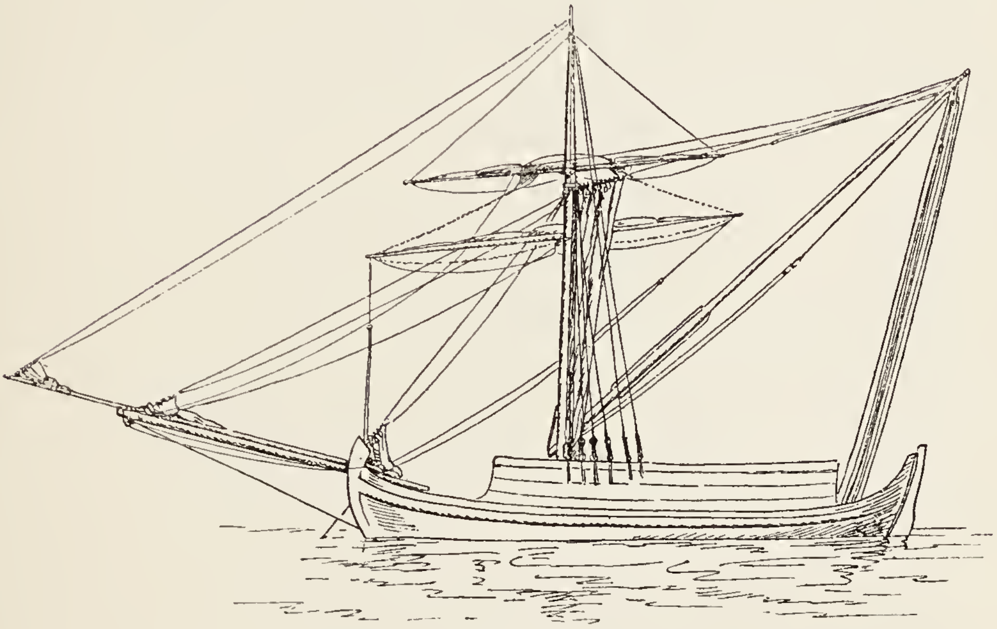


Fig. 25

The Bosphorus is the home of craft that carry square sails on a single mast, and though they set fore and aft sails as well, are as truly square rigged as a brig or a ship. The name of the type I could not discover with certainty, but a Turkish Naval officer told me it was *Tchektima* (figs. 25 and 26). I first saw a vessel of this kind at Salonika in 1918. She flew no colours and lay clear of the crowded shipping at the quays. We went near in one of our whalers to examine her. The coxswain of the whaler, a rugged-faced Suffolk coastguard, built somewhat on the lines of Jimmy Ducks, who might have sat for a picture of one of Nelson's men, was a good boat sailor. At first he looked at the strange craft dully as something foreign and beneath notice; but when his attention was called to the details of her rig, his interest and wonder grew upon his face. We followed together the lead of every rope. Two hundred years ago such a vessel would not have seemed so very strange. Had she appeared in an English port she would have been regarded as outlandish, but her rig would have been in keeping with age. To a modern eye she looked as much of another time as would a pillion or a sedan chair.

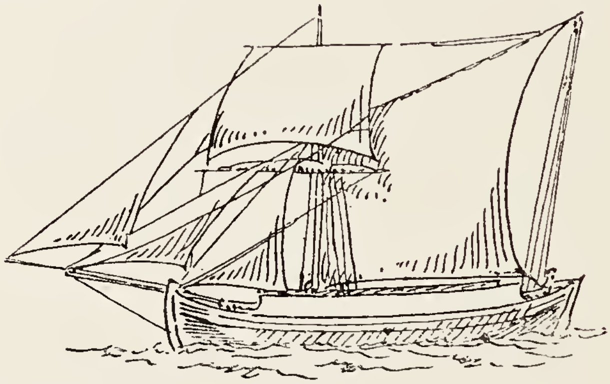


Fig. 26

In length she may have equalled a man-of-war's launch—she looked less than forty-five feet. Her beam was great in proportion. Her bows were bluff, her stem high and curved, her forefoot rounded. The stern was pointed and higher than the bow. The rudder head was higher still, and she steered with a tiller. Her dingy black sides were protected by a rubbing streak of dull red.

Between short decks at bow and stern was her open hold, with her cargo uncovered, but protected by high bulwarks reaching from a little before the mast to where the sheer aft began to rise steeply.

Her mast was about a third of her length from forward, and she had a long bowsprit and jibboom on the starboard side of her stem. Her topmast had a single cap, and its heel came to the deck. This is a usual way of fitting a topmast in small Turkish vessels, but sometimes instead of coming to the deck the topmast is tapered and seems to blend with the lower mast about half-way down. The heel of the jibboom was well in board and about a foot of bowsprit projected beyond the cap. The caps of mast and bowsprit were of iron. She carried two jibs running on stays, a fore staysail, and a sprit mainsail, all sails of no particular interest ; but just as the sight of a rare bird, that to the uninitiated looks much like any other, will rouse an ornithologist to an enthusiasm that even an augur can seldom have known, so her other sails filled me with delight, for she carried two yards—for a course and an undivided square topsail.

There are some contrivances that by their appearance particularly arouse a sense of the past. They are generally things used till recently, familiar in pictures if not in experience, or things with us still, but certainly doomed by the march of invention. Who is there, born before 1890, who would not be more reminded of his boyhood by seeing an old high bicycle of the ‘ penny farthing’ sort in use on the highway, than by an ordinary horse and cart of a kind common before bicycles were invented, and still usual ? A carriage and pair with coachman and footman complete is beginning to have the same appeal. A sedan chair, or one of those high swung vehicles, concave in front, without driver's seat, drawn by four horses with postillions, seen in a picture at once suggests the eighteenth century and its associations.

So the old deep single topsail brings back the sailing days of the Navy and the merchantmen of the first half of the nineteenth century; or, with no topgallant sail above it in a small vessel, the Dutch Wars and the pictures of the Van der Veldes.

Later in the year I was to meet many such craft in the Bosphorus, and to see in reality what, save for a few glimpses of training brigs in boyhood, I had hardly known but in pictures. There are generous curves and shadows in the old single topsails that the modern divided sails do not show. It is like the difference between wood and steel. What lover of boats does not know the satisfaction of contemplating the bow and stem of a fishing boat—say a Hastings lugger, the mingled weight, grace and strength, good workmanship and hard use that the smell of tar and fish accompanies as instrumental music the words of a song, and leads deep into the mind. But who can get the same delight from a fabric of steel ? A Van der Velde's art would have been cramped by steel hulls and double topsails.

The standing rigging was almost entirely of wire. There was a standing bobstay. The forestay came to the stem. The jibstay led from the lower mast head to the bowsprit end and the flying jibstay or topmast stay led from the topmast head to the end of the jibboom. There were four wire shrouds aside and two topmast backstays all set up with dead eyes and lanyards to the top of the bulwarks.

From the cap to the end of the sprit ran a stout wire supporting the sprit, and on this wire ran hanks carrying the head of the spritsail. The sail was fitted with a head outhaul running through a block or fairlead, I could not see which, at the end of the sprit. The end of this rope came to a block through which a whip was rove and led to the mast beneath the sprit. The lower end of the spar was almost hidden, and it was impossible to see how it was supported. It was on the starboard side of the mast.

There were three vangs, two with very short pendants each with a single block and one with a longer pendant. The topsail braces led to the end of the sprit and came down with the vangs, making no fewer than eight parts leading from the peak to the stern sheets. Pictures of yachts of the end of the seventeenth century show the same cataract of gear, for the half-sprit or standing gaff of that time had two pairs of vangs and the topsail braces led as in our Turk. A Thames barge has two pairs of vangs also, but one pair is kept for emergency and leads along her sprit to the mast.

The lower yard was permanently fixed aloft as in a large ship, and was fitted with an iron truss or gooseneck. Above the slings of the yard was a small tackle, the use of which it was impossible to determine while the sails were furled. It may have been a kind of buntline. Light lifts led through blocks on the cap. For braces there was a pendant at each yardarm ending in a thimble through which a small line was rove, and both parts were brought just abaft the stem. This position was probably merely a convenience when at anchor, for it gave a very poor lead for bracing up sharp.

There was a single foot rope with a stirrup on each side.

The sail was furled upon the yard. I could not see any clew garnets, buntlines, or leech lines, nor even the clews of the sail. The tacks and sheets were presumably unbent.

The topsail yard was square, in length three-quarters of the lower yard at least, and this somewhat spoilt the illusion of the seventeenth century. It was kept to the mast by jaws. There was a chain tye, in one part, leading through a sheave hole in the topmast head. The tye and halyards were to port. There were light standing lifts. The topsail braces were fitted with pendants. The standing parts of the braces were fast to the after end of the sprit and the falls led thence to the stern sheets, as already described.

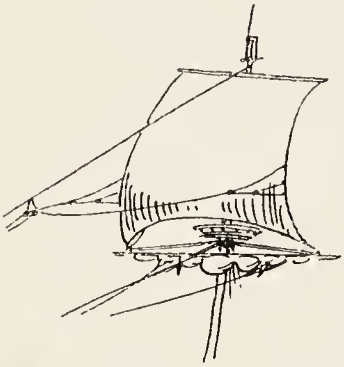
Craft of this sort are not fitted exactly alike. Sometimes the standing parts of the topsail braces join before reaching the sprit, and sometimes the falls come straight to the deck, and sometimes to a curious half boom that will be described later.

Foot ropes were fitted, one on each side, crossing at the mast.

The topsail sheets were of chain. There were no clewlines ; but they are sometimes fitted. The sail was furled on the bunt upon the yard. As far as could be made out the square sails were bent to jackstays, for no robands could be seen encircling the yards. When, however, craft of this kind are seen under way, the yards show prominently above the sails, as though no jackstays were used. Probably practice varies. Sometimes there is one row of reef points.

The topsail was fitted with bowlines. The keel, it will be remembered, had the rather rudimentary single bowline which serves well enough for lower sails. Topsail bowlines have died out with single topsails, the short leeches of the shallow divided sails being easily kept taut without their aid, especially when the bolt rope is of wire. These Turkish vessels, having kept the old topsail, have retained also the old gear for making it set properly on a wind. There are single bridles low on the leeches of the sail. This could not be seen in the craft I examined, but I saw many examples later. Thence the bowlines led through fairleads at the end of short rope lizards at the bowsprit end and so in board.

The origin of the bowline is obscure. The oft quoted passage of Sir Walter Raleigh is nonsense. It had been known for centuries before his time. As ships grew in size, fitted as they were with rope of what we should consider poor quality, the importance of the bowline increased. You cannot for ever be swigging up halyards, and even with yards as high as they would go it must often have been very difficult to get a taut luff with baggy sails, and so the bowline was more and more held in esteem, almost to superstition. It reached the height of its development in the seventeenth century, when even small topgallant sails were fitted with it, and two bridles held the leeches of the topsails in three or four places [fig. 27].



[Fig. 27]

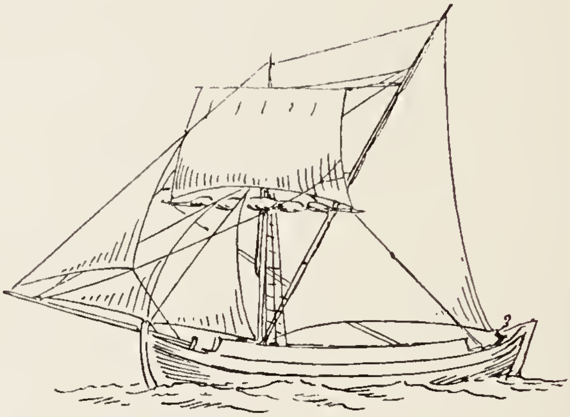


Fig. 28

A book almost might be written on bowlines.

There is another kind of craft also found in the Bosphorus that is rigged nearly in the manner just described, but usually with a modified lateen sail instead of the spritsail (fig. 28 shows this rig in a *tchektima* hull, which is not unusual). The name of the type I was told was *pennah*, but again do not feel certain the information was correct. Craft of this sort have a raking stem and a sharp, much less raking, stern. The hull has few interesting features, and is a very common type in those waters. The lateen sail is more frequently unaccompanied by square canvas, and will be described later. Sometimes it is sheeted to a boom with projects over the stern, and reaches only about half-way to the mast (fig. 143), but this boom is more often found accompanying yet another modification of the lateen. To it, as has been mentioned, the falls of the topsail braces are sometimes led.

These Turkish one-masted square riggers contrast strangely with the Humber keels, which have sails so much more ancient in form and fittings so much more modern. In their principal features the Turkish craft have stopped in their development at the eighteenth century, though some of their small fittings belong to the present age, and the puzzle is that they should have developed so far, and if so far, no further. It is as though the universal life of sail had influenced them fully once, in the seventeenth century perhaps, and then had lagged. I cannot explain it, for I do not know the Turk.

There are far more fore and afters than square riggers in the Bosphorus, but there are enough of the latter to give hope that they will not all disappear for some years yet. As you pass them while steaming through that wonderful waterway, some at anchor, others under sail, others anchored but airing their canvas, they vie with, and for some people surpass, in interest the palaces, castles, and mosques that stand by the shores. Those vessels are not trim. The Turk is a lubber and careless as to the set of his sails. It may be his carelessness that has caused him to cling to such an old-fashioned sail plan. For this, though the cut of his sails and the slack way they are set, and the lead of some of his gear offends a sailor's eye, the antiquarian can forgive him.

THE BRIG AND BRIGANTINE

At the end of 1918 there was to be seen hauled up on a slipway on the North shore of the Bosphorus a dismantled brig. Her stern ended squarely in a nearly upright transom like that of an ordinary open boat. Her bows were hidden (fig. 29).

The topgallant masts had been sent down. Her lower masts and topmasts were in one piece, and she had no tops. Her foremast was bare of yards, and had not her mainyard and main upper and lower topsail yards been aloft the absence of tops would have made her rig uncertain. In Northern waters the square-rigged masts of sea-going ships are almost always fitted with tops, not the roomy platforms of old days, wide enough to give such spread to the topmast rigging that the shrouds supported the topmasts equally with or more than the backstays, but small structures in which a couple of men can stand with comfort. In the Mediterranean, though usual, they are sometimes omitted.

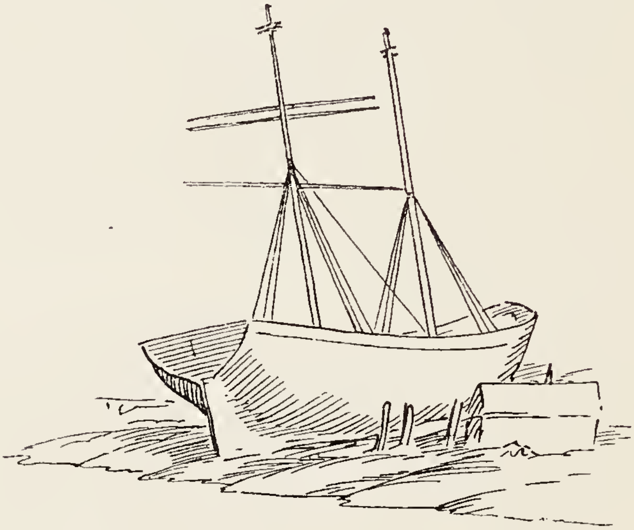
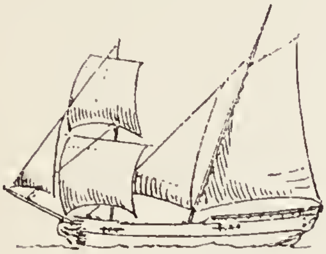


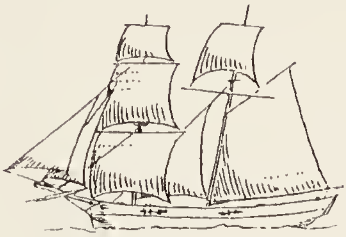
Fig. 29

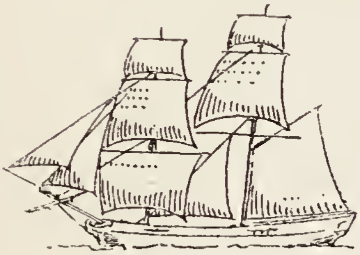
At Salonika in 1918 there was a brig painted light blue and white that rode like a giant among the little ships which thronged the port. She also had lower masts and topmasts in one and was without tops; and at Constantinople I bought a picture post-card showing another brig so fitted.

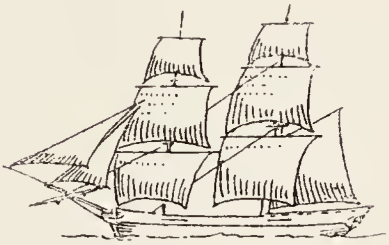
The brig is a vessel that has appealed to popular imagination, partly because the word is easy to pronounce and to remember, and partly because, within living memory, great numbers of vessels, especially in the coasting trade, were so rigged. The collier brigs used to be as familiar a sight in London river as barges are to-day.

The rig has a curious double ancestry: from the old brigantine and from the snow. At the beginning of the eighteenth century, in Northern waters, the word brigantine had come to be used for a sailing vessel instead of a rowing craft. The early brigantines seem to have been rigged much as at present, with two masts, square on the foremast and with a gaff mainsail [fig. 30]. Very soon, however, it became usual to carry a small square main topsail, often called a topgallant sail, for in size and position it corresponded with the fore topgallant sail [fig. 31]. Schooners of the period carried similar small squaresails at the main as well as at the fore. Development continued, and some brigantines carried more and larger square sails at the main, the main topsail becoming as big as or larger than the fore topsail [fig. 32]. *There was no square mainsail,* but otherwise the rig was at this stage essentially that of the brig of to-day. It was called indifferently brig or brigantine, but gradually the shorter term came to be used for the more developed form.


[Fig. 30]


[Fig. 31]


[Fig. 32]


[Fig. 33]

The snow appears to have arisen about the same time as the brigantine. She was square rigged on both masts, *with a square mainsail.* Later she carried also a main trysail on a trysail mast close abaft the mainmast [fig. 33].

At the end of the eighteenth century some men-of-war were fitted with both the square mainsail or main course and the boom mainsail, thus uniting in one rig the chief distinguishing features of brig and snow. The trysail mast was discarded in the Navy. These vessels were known as brigs.

In the Merchant Service many brigs continued without any sail on the mainyard, but it became more and more usual to carry a main course, so that the modern brig is really the old snow without her trysail mast (fig. 34). In the Navy the gaffsail on the mainmast was called the boom mainsail to the last, but in the merchant service it is usually called the main trysail.

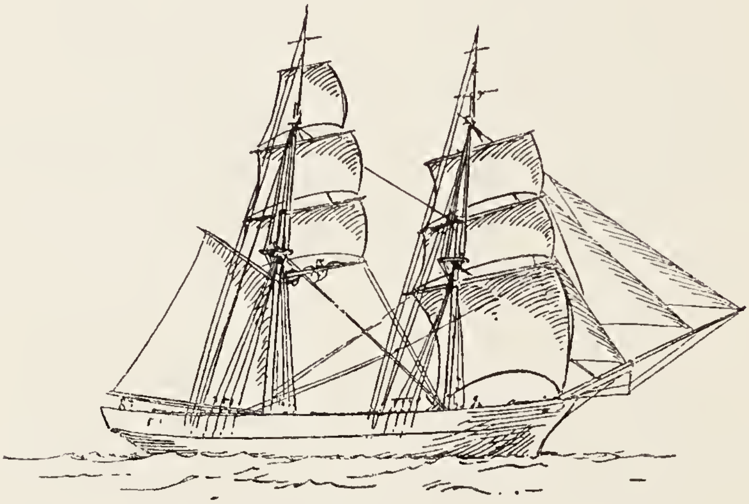


Fig. 34

At the present time, in so far as the term is used at all, a snow is a brig with a main trysail mast. The brig in its development having, as it were, caught up the snow, there were two words for almost the same thing, and so men seized on an unimportant peculiarity, the trysail mast, and made it the distinction. If a seaman of Anson's time were to spy far off at sea a brig of to-day, it is almost certain (provided her double topsails did not confuse him) that he would report a snow.

Fielding, in his *Voyage to Lisbon* in 1754, records :[1]

> 'This day we saw a sail, the only one as I heard of, we had seen in our whole passage through the bay. I mention this on account

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[1] Edition of 1755, p. 208.

of what appeared to me somewhat extraordinary. Tho' she was at such a distance that I could only perceive she was a ship, the sailors discovered she was a snow bound to a port in Galicia.'

They clearly did not distinguish her rig by the trysail mast at such a distance.

The trysail mast did, however, become the fitting that decided whether a vessel were a snow or not; but the word has gradually fallen out of use and many modern seamen do not know it.

In 1904 I saw the old *Commerce* of Newhaven[1] and about the same time the *Rose* of Whitby. Both had trysail masts, and the master of the *Rose* admitted, when asked, that his ship was a snow.[2] Yet, curiously enough, neither of these vessels carried a main course, and had our imaginary sailor seen them at a distance it is probable that he would have called them brigantines.

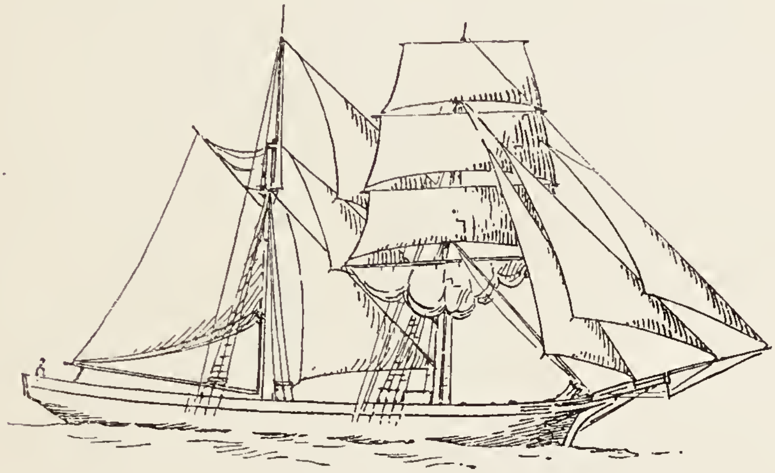

FIG. 35

The word brigantine continued in use, and gradually became distinct in its meaning from brig. It now signifies what used, in the middle of the nineteenth century, to be called an hermaphrodite brig, that is a brigantine that has laid aside all after square canvas and is therefore square forward and fore and aft rigged at the main (fig. 35).

We have then, at the present time, two distinct rigs: the

[1] She had single roller topsails, such as sometimes whalers used to carry.

[2] She was, however, described in Lloyd's List, 1906–7, as a brig. Built at Sunderland in 1848: length 88′ 2″, breadth 24′ 7″, depth 14′ 8″; gross registered tonnage 199.

brig square rigged on both masts, and the brigantine with her foremast square rigged and her main fore and aft rigged. In the names, however, as at the beginning, there is still some confusion. In Malta, which takes its technical terms from Italy, what we call a brig is known as a *brigantina* and what we call a brigantine, a *goletta,* that is a schooner. The word brig is not old. The earliest instance given in the *N.E.D.* is of 1720, and the next is of 1753, and just as the brigantines came to be called brigs, so at the present time the application of the names is becoming loose.

Soon after returning to England early in 1919, walking up and down the quarter-deck of the old cruiser that had brought me home, and watching the barges bustling by in a hard wind—there is not much else to watch in Kethole Reach—I fell into conversation with the quartermaster, a young man. He told me he had served in a training brig in the Bristol Channel, attached to the Industrial School ship *Formidable.* Was she a brig ? I asked ; ' Yes,' he replied, ' a full-rigged brig.' He added that she was painted grey and had been present at the Naval Review at Spithead just before the outbreak of war. I remembered having seen in 1915, near Ryde, a grey *brigantine* with a single topsail yard, but too far off to distinguish details, and I concluded that, despite her unusual colour, she was a merchantman that had temporarily sent down a topsail yard. Remembering this, I asked the quartermaster if his ship had been square rigged at both masts, and he said, ' No, only at the fore.' Yet he had called her a ' full-rigged brig '. It seems as though the word brigantine was one that Englishmen always tend to shorten to brig. At Malta there were several brigantines fitted with hidden guns and used as decoys. These were officially rated and generally spoken of as *brigs.*

The brig is fast vanishing, and the brigantine will certainly outlive her, if only for a little while; but she may succeed to the shorter title.

There is a fascinating field for inquiry and speculation into the causes of the use and disuse of the various rigs. It is easy to understand why the brig that requires many hands to work her should die out, but less easy to determine why the rig was so popular : why the coal trade between Newcastle and London preferred brigs and the fruit trade schooners. Generally it is the ocean-going ship that is square rigged and the coaster that is a fore and after, but the colliers had to pick their way along a coast encumbered with shoals and to tide up the river in fleets, while the fruit schooners' business took them down channel and across the Bay.

A friend and I rigged a small open boat as a brig and thereby found the explanation. We realized the truth of the exclamation of the skipper of a Channel barge: 'I reckon a brig's the handiest rig there is.' It is true. She will not of course lie so near the wind, by perhaps two points, as a fore and after, and she is far slower in stays, but *she can stop dead and can make a stern board.*

When it is remembered that the colliers were in no hurry, that they sailed crowded together in narrow waters and that they scorned tugs, it is easy to see how great these advantages were. The fruiters, on the other hand, were always in a hurry; they raced, and so since the greater part of their passages lay in open water and they were small ships, the schooner rig suited them best.

For ships of great burthen the square rig has been found the more suitable. Here it is a question more of setting and handling sails than of handling the ship, the much divided canvas being more manageable than fore and after sail of the necessary size. Also ocean-going ships can rely on known winds and run for weeks before them, and running is a point of sailing upon which a fore and aft rigged vessel is at her worst and withal difficult to steer.

During the first decade of the century brigs were to be seen at any small port such as Whitstable, Ramsgate, or the camber at Portsmouth, where their yards, with their complex gear—braces crossing like the parts of a cat's cradle[1]—gave an air of importance and of the old romance of the sea. Of late years the rig has become very rare, and by the time the war broke out was seldom seen in Channel ports. But the war which sank many new ships brought many an old one to life, and more sailing craft were to be met about our coasts than for years. In May 1915 I saw some seventy sail of Danes, Norwegians, and Swedes lying in Leith roads, and among them were no fewer than five brigs. Perhaps no one will ever see so many together again. There were three brigantines. The next day I landed at Granton and there also was a brig, but it is just possible that she was one of the five.

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[1] The main braces of a merchant brig usually lead to the quarters, and I have seen the lower topsail braces so brought aft; but the braces of the main upper topsail, topgallant sail, and royal lead to the foremast.

The rig is one of an age when the limitations of sail were accepted and met to the utmost of men's ability according to need and circumstance, when there was no falling back on steam to get out of difficulties. The brig is the smallest truly sea-going vessel completely square rigged, and this gives her an old-fashioned look in a time when fore and aft canvas supplies the chief power in small and middle-sized ships.

Every time a brig is recorded as lost something is gone for ever.

The last I saw, perhaps the last I shall ever see, appeared one March afternoon in 1919 as our ship drew out of Gibraltar Bay. She was a Spaniard, sailing large with the wind at S.E., and flying light under a main topgallant sail.[1] There was a westerly swell. I had a wager with the R.N.R. first lieutenant that we should not sight a brig between Italy and the Medway, and some sea-god sent this one for the confounding of landsmen who dared to make nautical bets with one of his own children. It was as though she had come to say goodbye for her kindred, for she stood slantwise across the Straits, her hull and sails white against the vague and gloomy African shore, till, by the coast of Spain she came to the wind, and then, farewell and adieu, it was main topsail haul—how she rolled in stays ; she was about and leaving us, stretching back towards Gibraltar, while we held our course to the westward.

Brigantines were still to be seen in numbers about our coasts when the war broke out. In the Mediterranean they are frequently met. They are of two principal kinds. There is the universal type, with a spike bowsprit or with a short jibboom, an ordinary square-rigged foremast with foretop, topmast, and topgallant mast, and sometimes carrying a royal; with a mainmast and main topmast carrying a gaff mainsail and topsail and several staysails, generally a main staysail, middle staysail, and two on stays leading forward from the main topmast, usually called for convenience the main topmast and main topgallant staysails, though there is no separate main topgallant mast. During the last two years of the war there were several brigantines belonging to the Spanish wine trade laid up at Malta: some of these had studdingsail boom irons on their foreyards. I was told that the sails were used only in summer. Studdingsails are now so very rare that any trace of them is worth recording. The Maltese for studdingsail is *cortelazz*, almost the same as the Italian. The French is *bonettes en etui*, and the origin of our own term is obscure.

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[1] She was under outer and inner jibs, a very small foretop-mast staysail, foresail, fore upper and lower topsails, main upper and lower topsails, main topgallant sail, and a small main trysail. Her mainmast was markedly taller than her foremast. She had her royal yards crossed.

A fore trysail with lowering gaff is sometimes seen. One of the aforementioned decoys used to carry such a sail at times to alter her appearance. She, or a sister of the same trade, had an unusually long beak, reaching half the length of her bowsprit from the stem to the cap, reminiscent of the days when a brigantine was a small galley.

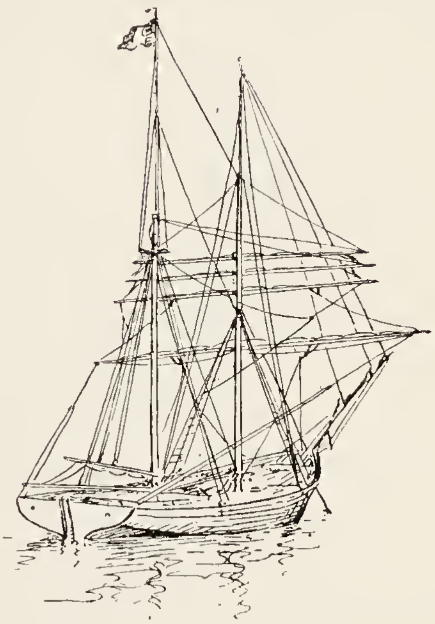
Fig. 36

The other type of brigantine is common all over the Eastern Mediterranean. The craft, which are usually Greeks, are beautiful toy-like little vessels. The form of hull varies greatly. Some have a rounded stem like that of a boat, others have a schooner bow with great overhang, some have counter sterns, some a square transom, and some pointed sterns (figs. 36, 37, 38).

The sheer is marked. There is often a great rise forward. They are all small and fascinate as does a pretty toy or model, and this fascination is increased by their trimness and bright paintwork. I saw one at Port Said in 1918, and my companion, an officer of the Royal Marines, who told me that accurate pacing had been part of his training, paced her length from stem to stern post on the quay. She was 63 feet long—about the length of a Lowestoft or Brixham trawler, a trifle more than a racing eight. Her fore truck, the higher of the two, reached only to the lowered topgallant yard of an unusually small brigantine of the ordinary kind that lay alongside.

The peculiar characteristic of these little ships is the foremast, which is a single pole, being lowermast, topmast, and topgallant mast in one and devoid of top and crosstrees.

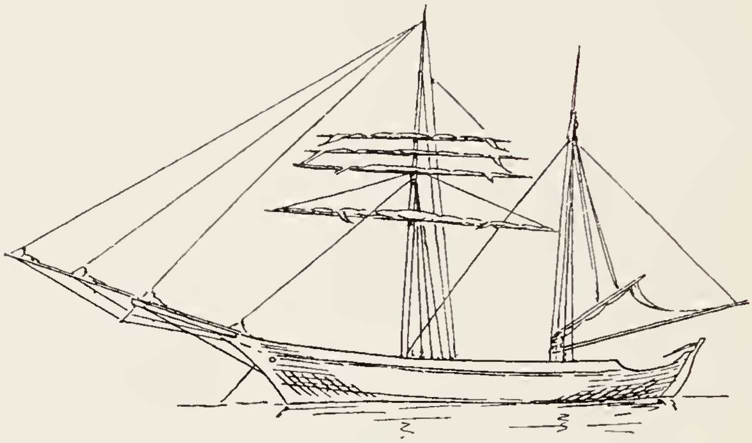

Fig. 37

In the eighteenth century three-masted vessels with pole fore and main masts were common in the Mediterranean, and were called polaccas or polacres. I could not discover that the word was still used,[1] but ‘ polacca brigantine ’ is a convenient term for these little pole-masted craft of the present day.

The foremast is usually well aft, and the mainmast with its short topmast is generally not so tall, is not in fact strictly a mainmast, but rather a mizen (fig. 37). Its size varies, and some ‘ polacca brigantines ’ seem to have a strain of the eighteenth-century square-rigged ketch in their ancestry.

At anchor the topgallant yard is lowered right down upon the topsail yard, so that looking at the foremast you see the foreyard and a little above it a cluster formed by the lower and upper topsail yards and the topgallant yard. The arrangement is striking and catches the eye at once.

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[1] I have since found *polacre* in Lloyd's List, but do not know its present meaning.

There are no topgallant lifts, for the topgallant yard when lowered is kept from swinging by the lifts of the upper topsail.

From the topmast head of an ordinary square-rigged foremast three stays lead to the bowsprit and jibboom, viz. the fore topmast stay, the inner jibstay, and the outer jibstay. Were these present at the morphological equivalent of the topmast head of a ‘ polacca ’ they would prevent the lowering of the topgallant yard in the manner described, and so she has no fore topmast stay or jibstays there, but instead has three stays springing from the head of what corresponds with the topgallant mast.

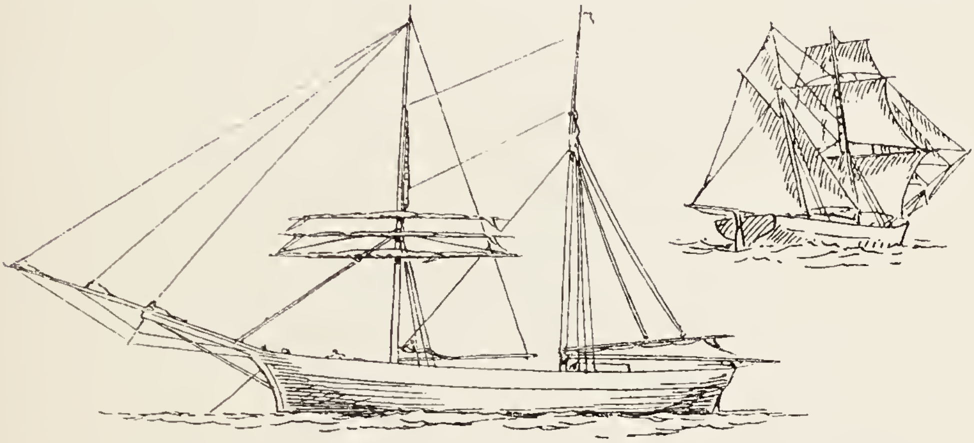

Fig. 38

The jibboom is often immensely long and sometimes projects as far beyond the stem as the mainmast stands abaft it.

Fore bowlines are sometimes fitted.

On several foreyards I saw studdingsail boom irons, but no booms were aloft nor gear rove.

The main staysail usually has a boom.

A few, but only a very few of the ‘ polacca brigantines ’, have a single topsail (fig. 38). In one so rigged, when the sails are furled the topgallant and topsail yards are lowered as far as the forestay permits, and lie close to the foreyard, exactly as in the eighteenth-century polaccas. With double topsails the fixed lower topsail yard keeps the fore yard and the upper yards at a distance.

The fore lower lifts of one such craft—with a single topsail—instead of leading to where the cap at the lower masthead would be in a vessel rigged in the ordinary way, came to the mast lower down, beneath the usual position of the foretop, a lead uncommon since the end of the seventeenth century.

One had no lifts at all to any of her yards.

In the Gulf of Salonika and the Bosphorus the polacca brigantines are numerous, and their small size is the better realized when they are seen in company with the little luggers and other fore and aft rigged craft that throng those waters. The quays of Salonika are a museum of types; a whole mercantile marine in miniature is to be seen, and a vessel that would look small in the Thames, is there huge. One of the daintiest of the little brigantines at Salonika was named ΟΙ ΤΡΕΙΣ ΑΔΕΛΦΟΙ. I read the name with a curious feeling of familiarity and strangeness; familiarity because the language was indistinguishable from the Greek I had failed to learn at school, and because 'The Three Brothers' is a name that might be met in any English port; strangeness also, because I had never associated readable Greek with everyday life. It seemed as much an anachronism as the tramcars reserved for hoplites that ran on the road beside the quay. At the quay lay a craft—a brigantine too; at least she was nothing else—as much smaller than the 'polaccas' as they were from the ordinary kind (fig. 39). Her hull was like that of

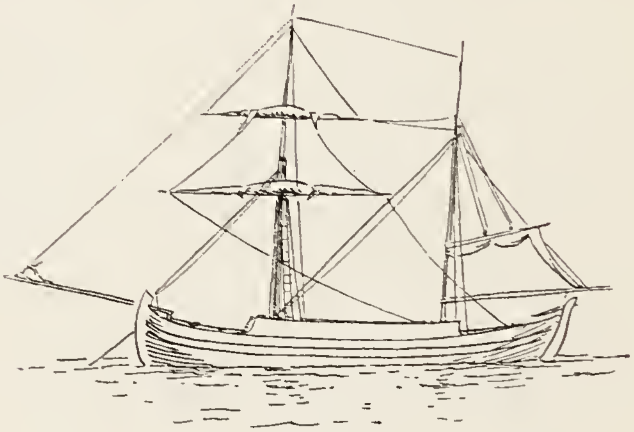

Fig. 39

the one-masted square rigger previously described. She may have been 45 feet long. She had the same sort of fore topmast.

Forward, beside her jibs, she carried only a square foresail and fore topsail. Her mainmast with its little gaff sail was shorter than the foremast. Perhaps she had been captured from the Turks, for she was dingy and her gear wretched. Having learnt from an interpreter what to say, I inquired what she was called. The answer I received was not what I wanted, but it pleased me. It was one that might have been given at any time since the siege of Troy.

'Poseidon', said a man on the quay. The name made me coeval with Ulysses.

Forms intermediate between the 'polacca' and the ordinary brigantine occur. I saw a fine specimen flying the Red Ensign at Port Said early in 1918 (fig. 40). She was really a Greek, built in 1904. Her topmast and topgallant mast were in one piece, but this spar was separate from the lower mast, and she had a fore top. Her headstays were fitted polacca fashion and her topgallant yard rested on the upper topsail yard when the sail was furled. She had fore bowlines. Her main truck was higher than her fore. She had 'cranelines' for overhauling her topping lifts, and these cranelines were attached by a span and two bridles.

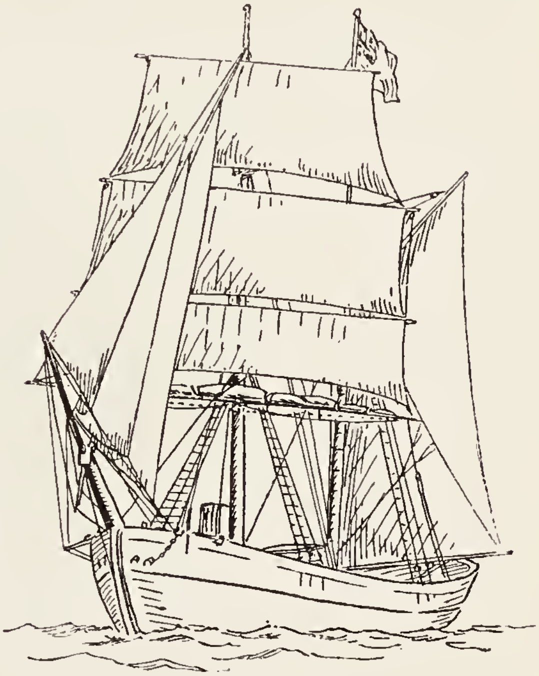

Fig. 40

The term craneline[1] in the seventeenth century meant a crowfoot or a series of bridles such as was then used as a backstay for the spritsail topmast and for other purposes. By the end of the eighteenth century the term was used, amongst other meanings, for gear for overhauling the driver boom topping lifts, no doubt because the cranelines were sometimes fitted as in this brigantine.

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[1] The word is still sometimes heard applied to an assemblage of small lines, such as those which reach from the rigging of one side to that of the other to aid in taking in a staysail.

Later in the year in the Gulf of Salonika we passed a brigantine apparently of the ordinary kind but showing the polacca influence in her headstays (fig. 41). She had a fore topmast staysail coming to the topmast head, and three sails on stays coming to the topgallant masthead.

The *Goolet* of the Bosphorus (if her name was told me correctly) has more of the ketch in her than the polacca brigantine (fig. 42). The rig is merely that of the *pennah* (see p. 44), lateen and all, with a gaff mizen; but, since she is larger, double topsails are often fitted (fig. 43). A topgallant sail is not carried. ‘Goolet’ obviously means schooner, and some goolets which lack a forecourse and have the foreyard slung high resemble a schooner, though with a modified lateen for a foresail. I have used ‘fore’ here because making a comparison with the schooner rig; but if the goolet be considered a ketch, her masts are strictly not fore and main but main and mizen.

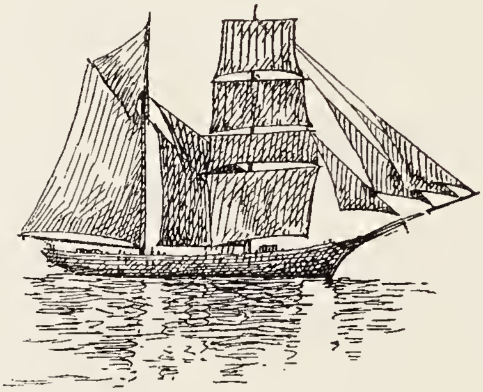

FIG. 41

The hull is sometimes of the Turkish type, which has a rounded aftward curving stem, and sometimes of the more featureless kind with an overhanging bow. There is often a narrow transom.

One of these vessels had a peculiar fitting to her single topsail. Instead of ordinary clewlines she had lines made fast to the foot of the sail and rove through a block on each side near the middle of the yard (fig. 42). This *goolet* showed an example of Turkish carelessness in her jib halyards, which were led abaft the topsail although the halyard block was near the topmast head. The luff of the jib can be imagined.[1]

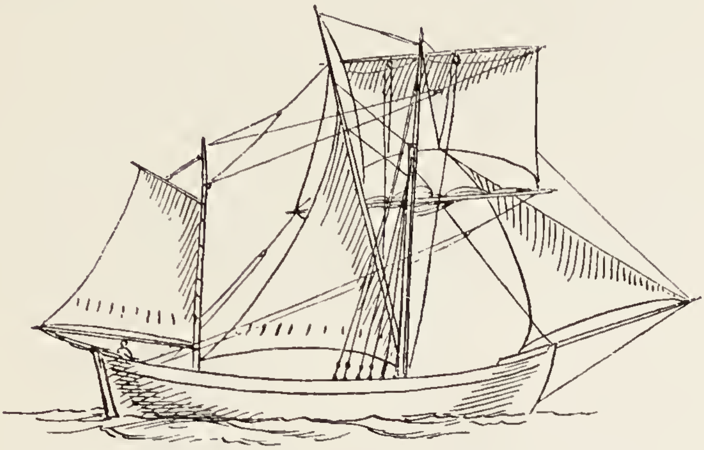

Fig. 42

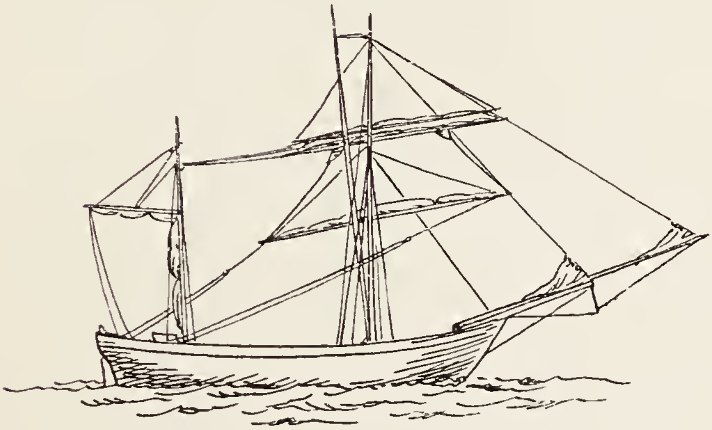

Fig. 43

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[1] The seamanlike instincts of the illustrator prevented his showing the curve.

BARQUENTINE

Put a fore and aft rigged mizen-mast in a brigantine and you have a barquentine, sometimes called a three-masted brigantine[1] (fig. 44). Eighty years or so ago barquentines were called three-masted schooners, and, as has been mentioned before, the word barquentine was formed by barbarous false analogy. It is comparable with the word electrocute.

It is not always easy to distinguish between a three-masted schooner and a barquentine. I remember in the early years of the present century seeing a vessel lying at Spithead which was square rigged at her foremast and fore and aft rigged at the main and mizen. In conversation with a Southsea longshoreman I called her a barquentine, and he at once spoke of her as a schooner. I asked him why she was not a barquentine. ‘ She ’s got no top forward,’ he replied. Tops in Northern waters having been fitted so generally and for so long to the square-rigged masts of sea-going ships, came to be regarded as an essential feature, and my boatman did not regard a mast as truly square rigged without one. The question as to whether a vessel is of a particular rig or of one resembling it is academic, because the application of the names has never been standardized and is always changing. It is interesting, however, to note what at any given period is held to determine the correct use of a name.

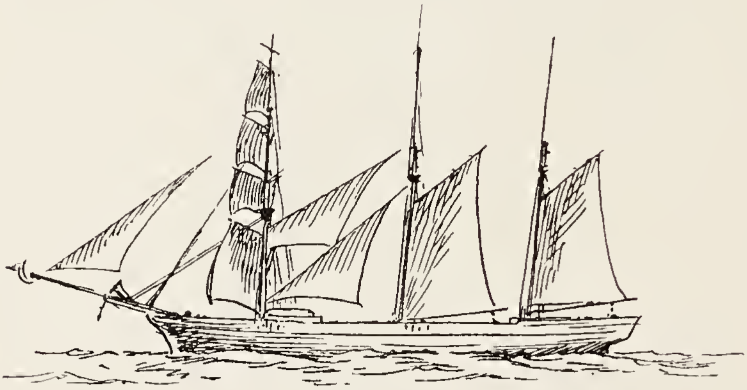

Fig. 44

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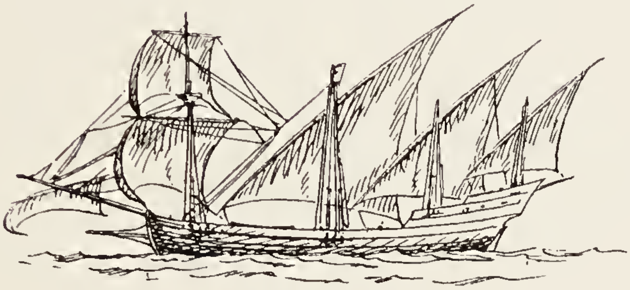
[1] Both terms are to be found in Lloyd’s List.

When war broke out barquentines were common about our coasts. The rig is handy but ugly. In a brigantine the fore and aft canvas matches the square, but in a barquentine the picture is badly composed. The narrow mainsail especially catches the eye disagreeably, and the unsupported look of the mizen-mast adds to the mental discomfort. Still handsome is as handsome does, and though she cannot boast a distinguished ancestry, the barquentine is interesting as the modern representative of the Portuguese caravel of the sixteenth century. The caravel had a square-rigged foremast and generally three, but sometimes two, fore and aft rigged masts carrying lateens, a rig in its combination of square and fore and aft canvas essentially similar to the barquentine [fig. 45].



[FIG. 45]

In these last degenerate days of sail, ships and barques are sometimes re-rigged as barquentines for the sake of economy in handling. The Italians seems to regard the rig as incomplete, for their name for it is *barca bestia*, analogous to our 'jackass barque'. Some barquentines, notably Danes and a few recently built of steel, seem to take a pride in their appearance, and do not suggest the decay and penury too often apparent.

Before the present century was in its teens an old barquentine called the *Waterwitch*[1] used to frequent the camber at Portsmouth. She was dingy and old, but had seen better days, and had a reputation for speed. She carried studdingsail booms, not the irons merely, on her foreyard. No gear was rove, and it was said they were carried only for show, as a remembrance of her vigorous youth. Certainly they had once been used, for you could see where they had been galled by the irons. Doubtless they gave satisfaction to her skipper.

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[1] Built in 1871 at Poole: length 112 ft., breadth 25 ft. 8 in., depth 12 ft. 8 in.; gross register tonnage 206.

THREE-MASTERS. THE SHIP AND BARQUE

The modern ship (fig. 46) and barque (fig. 47) have been so often described and portrayed that it is unnecessary to describe the rigs in detail. They have, however, several features that are, so to speak, pieces of history crystallized, and these repay examination.

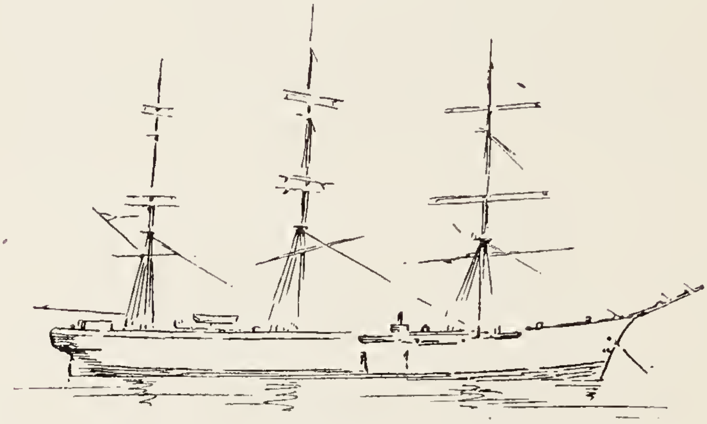

Fig. 46

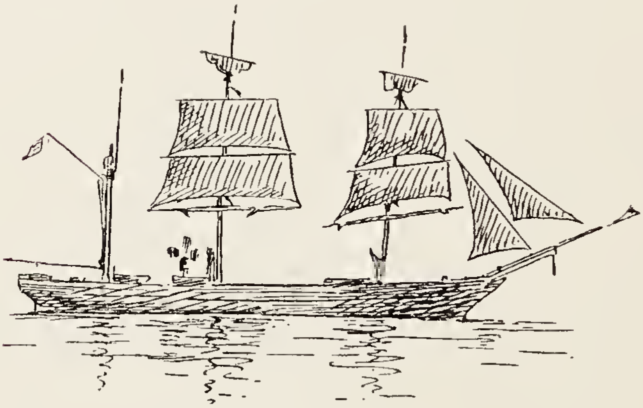

Fig. 47

First their names. At the present time, by a barque is meant a three-masted vessel[1] square rigged on the fore and main masts, and fore and aft rigged on the mizen-mast, and by a ship a three-masted vessel square rigged on all three masts.

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[1] There is a recent tendency among merchant seamen to speak of a three-masted barque to distinguish the rig from the four-masted variety that has become so common in the last forty years.

Now, if you could ask an Elizabethan seaman to describe any ship he knew, say the *Revenge* or the *Triumph,* he would probably begin a discourse in which he would dwell on her power and beauty and tell of her cannon and lofty decks; but in which he would very likely not describe her rig at all, because he would take for granted that you knew it, since all ships were nearly alike. If, however, you were to say :

'And how are such ships, as well of the Queen's as of private marchaunts, rigged and apparelled ?' He would reply something in this fashion.

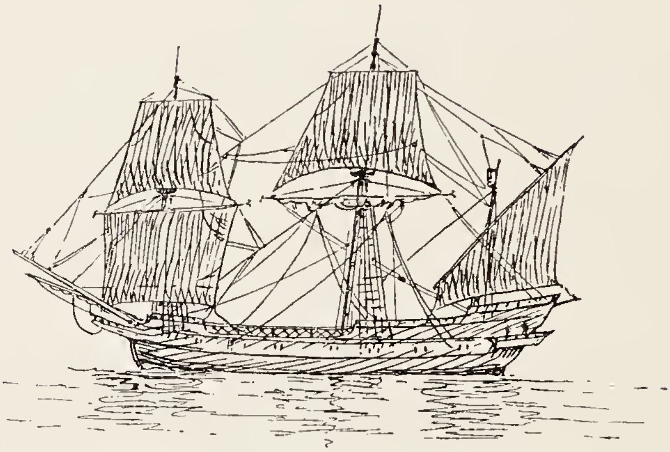
'Foremoste of all cometh the bolsprite with his spret sayle, and there is the foremaste and the mayne maste with their toppes and the topmastes upon them and all these bear crosse sailes. Then there is the mizen-maste that is set abaft the mayne maste and in great ships they use to carry two misons and that standeth nearest the sterne they call the bonaventure mizen but in middling ships and in barkes and pinnesses there is but one.'

That is to say, he would describe the rig carried by a ship as consisting essentially of two square-rigged masts, and one, or in large ships two, fore and aft rigged. 'Mizen' in those days meant a lateen sail, and having spoken of a mizen-mast a seaman would have described its rig by its name.

The mizen with its yard has given place to the spanker with its gaff, the square sails have increased in numbers and been subdivided, and the spritsail has vanished; but fundamentally the rig of the Elizabethan ship is that of the modern barque [fig. 48].

The sixteenth-century ship developed, not in the direction that had seemed probable for more than a hundred years, towards the general use of four masts, two square and two fore and aft rigged, but towards increased square canvas. In the seventeenth century the bonaventure mizen fell out of use and the square mizen topsail was brought in. So, gradually, ships came to be square rigged on all three masts; and when other rigs increased in variety and vessels began more and more to be named after their sail plan, that which was carried by the majority of large ships came to be called, for that reason, the ship rig, and a vessel carrying it a full-rigged ship.

The bark, the word meaning little more than a small ship, had no reason to alter a sail plan of long proved handiness for the smaller kind of vessel, and gradually the name became associated with the rig ; but perhaps till the eighteenth century there was no hard and fast distinction between a bark and a ship, none at any rate that a change of rig could obliterate. For years, in winter, ships dispensed with their smaller sails such as the spritsail-topsail, top-gallant sails, and mizen topsail ; but one of Cloudesley Shovel's men would have been mightily astonished had it been suggested to him that by leaving his mizen topsail ashore he had made his ship a bark.



[Fig. 48]

Like the word ' ship ', ' bark ' has continued as a general term, though only in poetry, and the modern spelling ' barque ' has come into use to distinguish the technical meaning.

At the present time, if the yards are stript from a ship's mizen-mast, as is often done from motives of economy, she becomes a barque. There are therefore two sorts of barque : one as it were an undeveloped ship, and the other a ship degenerate.

In ships and barques, indeed in all three-masted vessels, save some three-masted schooners, the mainmast is generally the tallest and the mizen-mast the least lofty of the three. The original reason for this is that the mainmast was there first, and that when, in the fifteenth century, the foresail and mizen were introduced, they were for a time little more than balancing sails to aid the steering. They gradually increased in size; but a type had been established with masts of unequal heights, and any other arrangement would have offended the eye and would still offend it. The mizen-mast was smaller than the foremast because the sail with its lofty peak required less hoist than the square foresail. Any arrangement or shape to which the eye has become accustomed acquires a kind of orthodoxy. Many will remember Judson's exclamation, 'that topmast wants staying forward', in Kipling's story. Judson had been trained in a sailing tradition that required the fore topmast to be stayed forward, and his flat-iron gunboat, with her upright mast, caught his eye disagreeably.

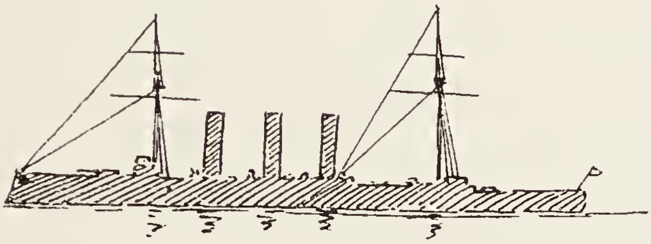


Fig. 49

Till quite recently men-of-war's masts were proportioned as though their chief purpose was to carry sail. The cruisers of the old county class are a good example, in which, for no reason but that it looked correct in the days when they were built, the masts are proportioned relatively one to another like those of a schooner (fig. 49).

A ship's lower sails are called her courses, but few seamen know why. The reason is to be found in the early preference for the use of bonnets instead of reef points. The word 'course' means body; it should be written 'corse', and was used for the main body of the sail apart from the bonnet which was laced to its foot. The complete term was 'the mainsail, or foresail, corse and bonnet'. Since bonnets were used principally with the foresail and mainsail, the word ‘ course ’ became associated with these sails, and its original meaning forgotten ; so when, quite recently, a corresponding sail[1] became usual on the mizen-mast it was called by analogy a course too.

The principal yards on the foremast and mainmast take their names from their masts, and we have the fore yard and the main yard ; but the corresponding yard on the mizen-mast is called the cro’jack (crossjack) yard. So much do people accept what they have been taught, that I have never heard this apparent anomaly commented on by a sailor. When, however, a Merchant Service officer was told that in Italian the crossjack yard was called the *virga secca*, or barren yard, because it carried no sail, he at once remarked on so unreasonable a name, because in his experience it always did carry a sail—the course referred to above. The reason for not calling it the mizen yard is simple : when early in the seventeenth century the crossjack yard was found necessary to spread the foot of the newly introduced mizen topsail, there was already a mizen yard, carrying a lateen sail. It has been mentioned more than once. The mizen yard in course of time gave place to a gaff, but by that time the name crossjack was too securely established to succeed to the vacant title. The word crossjack is suggestive. ‘ Jack ’ in nautical speech generally means something small or substituted : thus we have the jack, the little flag forward, contrasted with the great ensign aft, and jack meaning the little fitment that, where the topmast and topgallant mast were in one piece, took the place of the topmast crosstrees—one was till lately to be seen in H.M.S. *President* at Blackfriars. ‘ Cross ’ was used where we should say ‘ square ’, so that the crossjack yard may well have meant the insignificant square yard ; insignificant because it was small and, as a rule, bore no sail, and square in contrast with the mizen yard.

Though the other yards on the mizen-mast take their names from its subdivisions mizen topsail yards, mizen topgallant and royal yards, I have heard them collectively referred to as the crossjack yards, no doubt because the word yard immediately following the word mizen sounds incorrect to the ears of a modern deep-sea sailor.

[1] The cro’jack.

Not only is the mizen yard gone, and replaced by a gaff; but the name of the fore and aft sail on the mizen-mast is also changed, and we find, instead of a mizen a spanker.

Put as shortly as possible the changes were as follows; but it must be remembered that there was a great deal of overlapping and some confusion of nomenclature (figs. [50–7], 58–60).

In the eighteenth century the lateen mizen in some ships changed its shape and was carried on the after part of its yard only [fig. 53], or, as became usual later, on a gaff [fig. 54]. Occasionally with a fair wind an oblong sail, called a driver, with its head spread by a small yard, was hoisted to the peak of the mizen yard or gaff [fig. 55]. This sail developed, and by the last quarter of the century was shaped something like a lower studdingsail and filled all the space beneath the mizen gaff, or after part of the mizen yard, to which it was hoisted by three pairs of halyards [figs. 56 and 57]. Its peak was spread by a little yard hoisted to the mizen peak, and its foot by a long boom. In this form it was sometimes called the spanker. Pictures of the period often show this boom along with the gaff or yard, and it must be remembered that the boom was not used for the mizen but only for the driver. The next stage was to lay aside the mizen[1] altogether and bend the driver to the gaff, giving the sail almost its modern, or rather recent, form (fig. 58). The long driver boom was then curtailed till the sail became in effect the old gaff mizen again, but with a boom, so much so that almost the same process of evolution began afresh and the clippers used to carry a studdingsail, called a ringtail, abaft the spanker, much as the driver has supplemented the mizen (fig. 59).

In recent times the spanker has further degenerated to a leg of mutton sail (fig. 60), and a gaff has become rare in ships.[2] I saw one in a French ship, the *Berengere*, at Harwich in 1915 and another in a Norwegian ship in Cork Harbour in 1916. A few days later I saw another Norwegian with an even less common fitting. Her spanker had a short gaff which could be hoisted and lowered like a fore and after's gaffsail instead of the usual standing spar fixed aloft. The same year, near Land's End we passed the beautiful full-rigged ship *Fullwood*,[1] sold, alas, to the Norwegians, and she too had a spanker gaff and a boom as well.

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[1] The name was sometimes given to the mizen trysail till the middle of the nineteenth century.

[2] So relatively unimportant has the sail become, that when a modern square-rig sailor speaks of the boom he means the jibboom.

Above the courses are the topsails, now divided into upper and lower. The word topsail came into use not because the sail was on the top of the course, but because it was the sail of the ' top castle ', or top, which crowned the mast-head of the medieval ship. The top was doubtless useful for a look out, but its chief purpose was as a station for armed men, and, in the sixteenth century, for light guns. Naturally it was provided with a flagstaff, and inevitably it occurred to some one to set a sail on it, the top sail, as though the top were a boat. The sail is often shown in pictures as actually sheeted to the top instead of to the lower yardarms, and for a time probably was so. The flagstaff grew into a topmast, and by the end of the fifteenth century was itself surmounted by a small top which came to be called the top gallant, the high adventurous top so to speak, and its sail was naturally called the topgallant sail. In after years the combined word topgallant took over the old meaning for nautical purposes of gallant, and we still speak of a topgallant forecastle for one raised above the upper deck.

In quite recent times the topgallant sails have become divided into upper and lower in large ships, just as the topsails were split sixty or seventy years ago. Often the fore and main topgallant sails are double and the mizen topgallant sail is single, and I have seen, before the war, a single fore topgallant sail and the main and mizen topgallant sails double.

Sometimes the lower topgallant yard, instead of being permanently fixed to the cap is provided with a halyard and there is a stay between the upper and lower topgallant yards which prevents the upper yard from resting on the lower when the sails are furled. I saw a four-masted barque with topgallant yards separated in this fashion in Cork Harbour in 1916. It gave her a queer look aloft as of a skysail yarder gone wrong.

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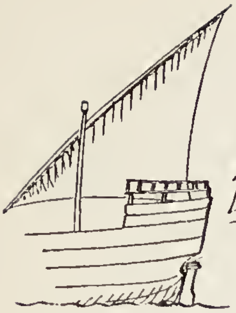
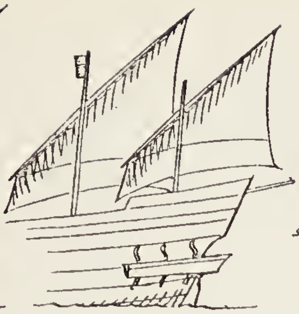
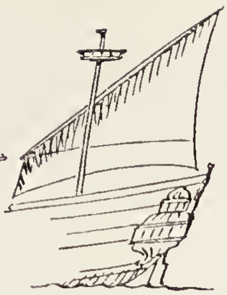
[1] Built of iron at Southampton in 1885 : length 279′, breadth 40·2′, depth 21·8′, gross register tonnage 1,437. Lloyd's Register, 1917.



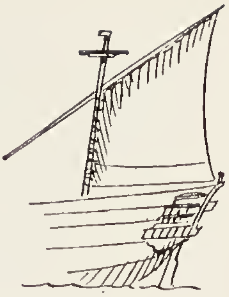
[Fig. 50]



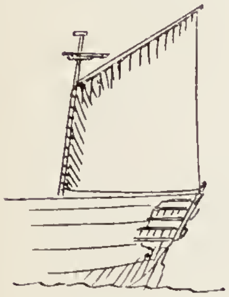
[Fig. 51]



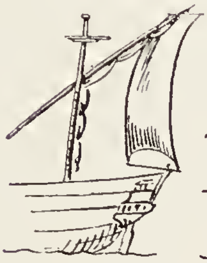
[Fig. 52]



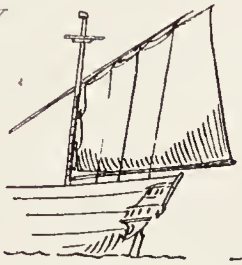
[Fig. 53]



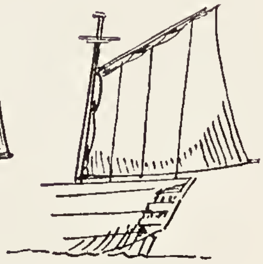
[Fig. 54]



[Fig. 55]



[Fig. 56]



[Fig. 57]

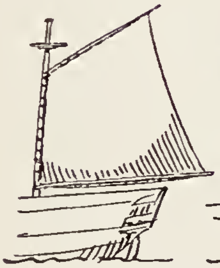


Fig. 58

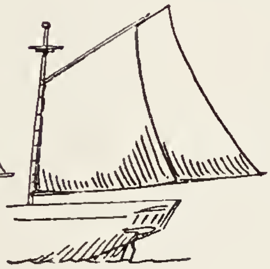


Fig. 59

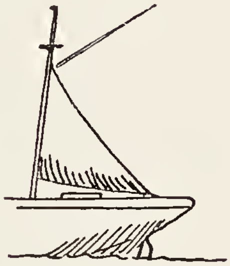


Fig. 60

Explanation of figs. [50]–*60. The dates are in round numbers.*

[50.] Fifteenth-century mizen.
[51.] Sixteenth-century mizen and bonaventure.
[52.] Seventeenth-century mizen.
[53.] Mizen, 1745–95, in large ships.
[54.] Gaff mizen, gradually displacing the yard mizen after 1740.
[55.] Driver, mid eighteenth century; mizen still carried.
[56.] Driver, last quarter of eighteenth century; mizen still carried.
[57.] Driver on gaff; mizen still carried.
58. Driver or spanker, early nineteenth century.
59. Spanker and ringtail, mid nineteenth century.
60. Trysail, late nineteenth century.

Above the topgallant sail is set the royal. When this sail was first seriously considered in the seventeenth century it was called the topgallant royal, that is the superior grand topgallant sail, the adjective following the noun as it had with ' top gallant '. In the same fashion a deck above the poop was called a poop royal.[1]

Topgallant royal soon became shortened to royal, and so the word remains. Many modern ships and barques dispense with royals altogether and are fitted with stump topgallant masts. Such vessels are sometimes spoken of as baldheaded (fig. 61. This is the Italian barque *Merioneth,* formerly an English ship and ship rigged).

Skysails are hardly ever met now. In 1910 I saw a four-masted barque towing through the Straits of Dover that had skysail yards, and another in the Surrey Commercial Docks the following year, but none since.

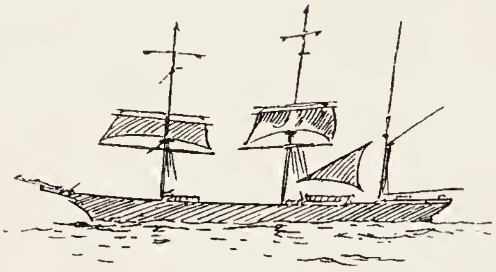


Fig. 61

The modern bowsprit shows scarcely any vestiges of the numerous and complicated fittings which grew up about it, but has returned almost to its primitive condition. Originally a spar for carrying a grapnel, and for supplying a good lead for the (main) bowlines [fig. 62], in the fifteenth century it was used also to set a square sail, the spritsail ([fig. 63] shows a sixteenth-century spritsail). In the first years of the seventeenth century a little upright mast, the spritsail topmast, standing at the bowsprit end and supported by a knee, was becoming common. On this mast was set the spritsail topsail [fig. 64]. In the first years of the eighteenth century we find records and representations of the jibboom,[2] carried beneath the bowsprit and in conjunction with the spritsail topmast [fig. 65]. The latter seems to have disappeared by 1750, and from thenceforward the spritsail-topsail yard was carried on the jibboom [fig. 66]. In the last years of the century the jibboom grew

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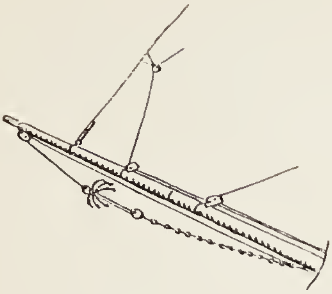
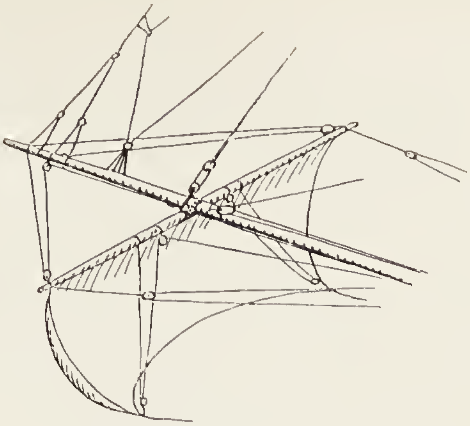
[1] It would be called a monkey poop nowadays, so much have we improved upon the inflated diction of our forefathers.

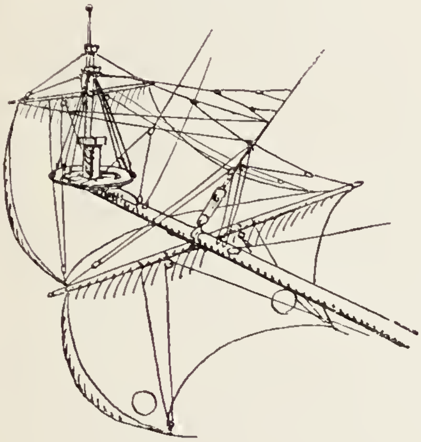
[2] Called the flying jibboom when first invented.



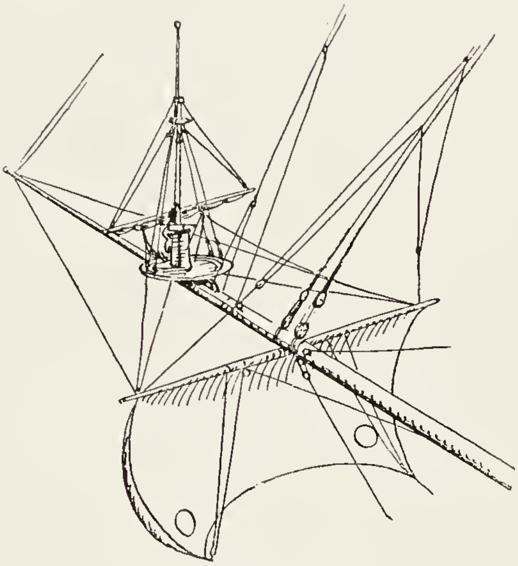
[Fig. 62]



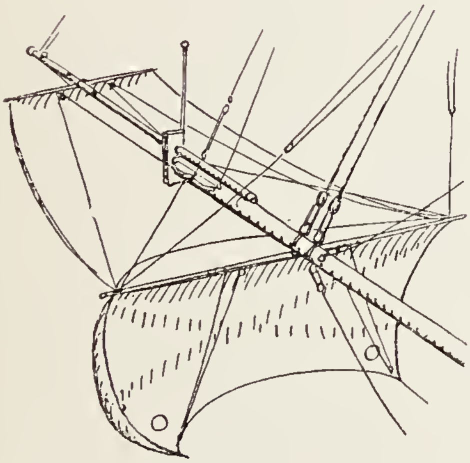
[Fig. 63]



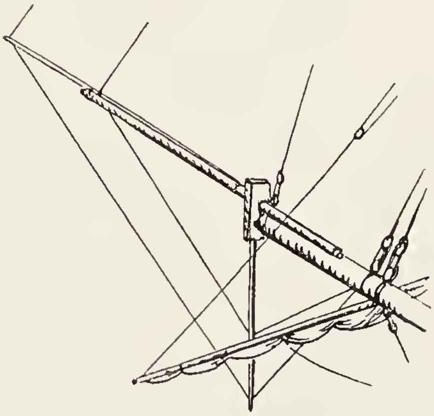
[Fig. 64]



[Fig. 65]



[Fig. 66]



[Fig. 67]

longer, a dolphin striker became necessary to spread the martingale, and the flying jib was introduced, and then the flying jibboom, projecting beyond the jibboom and lying usually to starboard of it with its keel in the bowsprit cap [fig. 67].

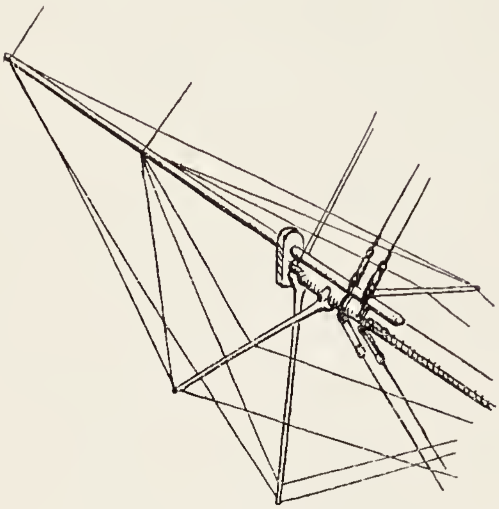


Fig. 68

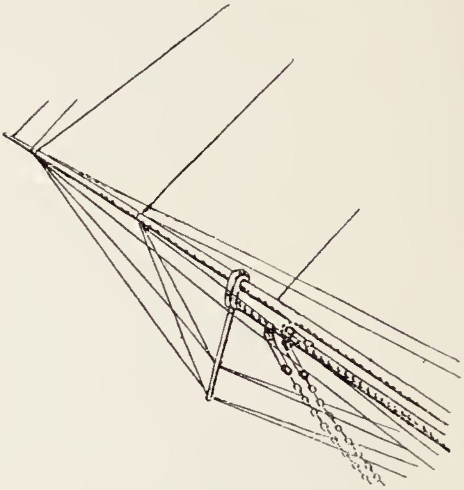


Fig. 69

Beneath it a spritsail topgallant sail was sometimes carried. Early in the nineteenth century this complication began to be simplified, especially in merchantmen. The spritsail topsail and its yard were laid aside and the spritsail became more and more rarely used, the chief function of its yard being to give purchase to the rigging of the jibboom and flying jibboom. Then came spritsail gaffs, nowadays, when seen, called whiskers, replacing the yard (fig. 68). Except in the Navy, the flying jibboom went out of use and the jibboom became shorter till its guys had sufficient purchase when set up in the catheads, and whiskers were no longer required (fig. 69). For the same reason, the dolphin striker became rudimentary. Finally in the more recent ships the jibboom was laid aside altogether and a spike bowsprit fitted (fig. 70). The Navy retained jibboom and flying jibboom with whiskers and

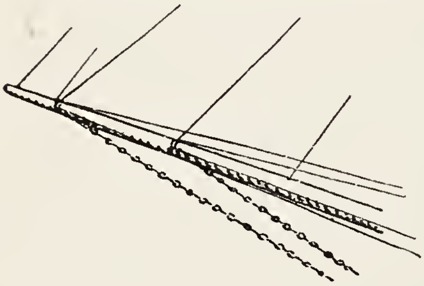


Fig. 70.

dolphin striker to the end, and H.M.S. *Victory* was quite consistently rigged till a few years ago her whiskers were replaced by a spritsail yard made in Wardour Street.[1]

A ship is a beautiful and wonderful thing considered merely as she is, but when a knowledge of her past is added she conjures up a vision not only of far seas and distant lands but of bygone centuries also and the ocean of time.

Ships are less rare than brigs. During the war I saw twenty-six between Kirkwall and Gibraltar, and one was built of wood; but their number is rapidly diminishing and the rig will be gone long before the final extinction of sail.

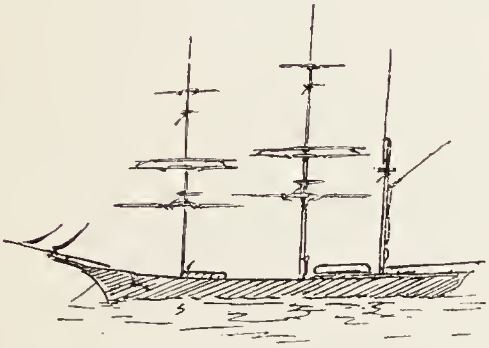


FIG. 71

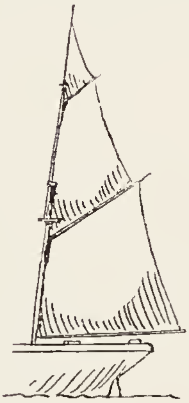


FIG. 72

Barques were, till the end of the war, relatively numerous, though there were far fewer than there were fifteen years before when Scandinavian timber men and ice ships built of wood were to be met in almost every port. One feature of the rig is very seldom seen now: the mizen lower mast as tall as or even taller than the mainmast (fig. 71). The comparatively modern barque, even when she is not a ship with the yards stript from the mizen-mast, generally shows the influence of the ship rig, and has her masts proportioned like a ship's and consequently her spanker very small; but here and there an old barque stript to bare lower masts and used as a hulk shows the true barque mizen-mast tall and devoid of a top.

In 1916 there was a Norwegian steel barque in Cork Harbour called the *Erling* that had studdingsail boom irons on her fore yard, but no gear was rove.

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[1] Before her careful restoration was begun.

Sometimes, but very rarely, a barque carries a mizen gaff topgallant sail. Most barques carry a gaff topsail above the spanker, and sometimes a narrow gaff topgallant sail is set above this (fig. 72). I saw one in the North Sea in 1912.

FOUR- AND FIVE-MASTERS

Four-masters were used in the fifteenth century and became comparatively common in the sixteenth, but died out early in the seventeenth, and thenceforward, to the end of sail in the Navy, the purely sailing man-of-war was a three-master. In the merchant service, however, the last quarter of the nineteenth century saw the rise of a type that became almost the standard rig for large sailing ships, the four-masted barque (fig. 73). When iron and then steel replaced wood as the material for building large ships, the resulting increase in size could not be met beyond a certain point by simply enlarging the dimensions of masts and spars, and a fourth mast was found necessary.

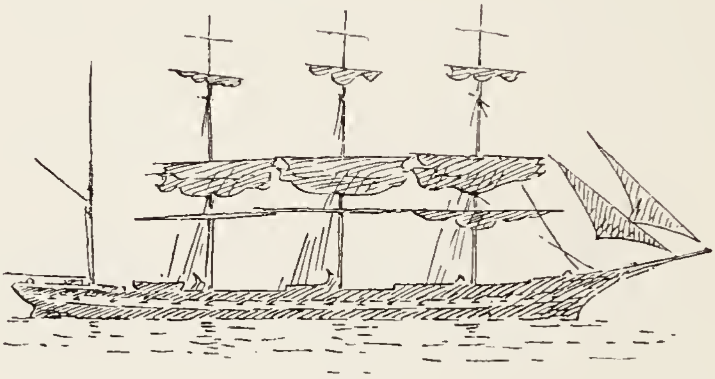

Fig. 73

The three square-rigged masts of a four-masted barque are generally of the same height, though there is sometimes a trace of the traditional proportions, and the fore and aft rigged jigger-mast is considerably shorter. The old name for the fourth mast, the bonaventure, was not revived, which is a pity, for bonaventure is a finer sounding word than jigger, and the latter already carries two meanings—a tackle, and an objectionable parasite. Nor had the old word quite vanished from the sea language. Some nineteen years ago an old sailor, turned 'longshoreman', used the word, pronounced 'bonnyventer', in conversation with me, and said it meant a jib-headed trysail or spanker. The bonaventure was the last sail in the ship with its mast perched on the high poop—the name suggests daring and hope—and bonaventure, the small trysail, was a good name too for one of the last sails a ship could carry in the extremity of a storm.

Four-masted barques are usually very up to date in their fittings. Their steel lowermasts and topmasts are often in one piece, and they seldom have jibbooms. Sometimes every mast and spar is of steel.

The cook of the well-known *Port Jackson* told me that she was the only four-master that had her rigging set up in outboard channels.

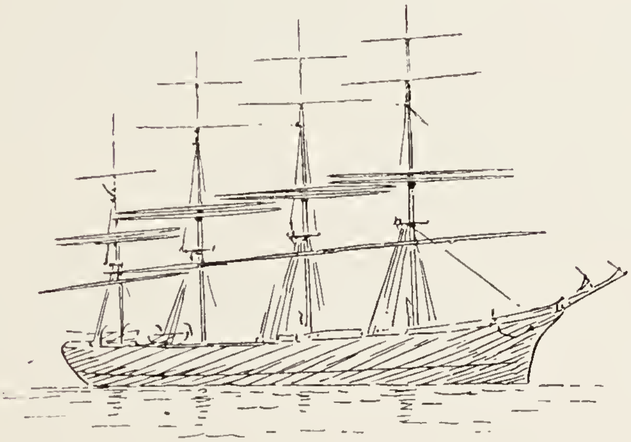

FIG. 74

Four-masted full-rigged ships, i.e. with square canvas on all four masts, exist (fig. 74)—or did when war broke out—but were never common. In the autumn of 1914 I saw a fine specimen towing northwards past Lowestoft. She was frigate painted and had lost her fore topgallant mast. Till we saw her Norwegian colours we thought her a prize, and very likely she had been a German once. A lieutenant R.N.R. told me he had seen two four-masted ships in Dunkirk early in the war.

Five-masted barques have been built, but I have never had the good fortune to see one. There was at least one five-masted ship, the great *Preussen* of Hamburg (fig. 75), lost under the South Foreland in the first years of the century, where her wreck still lies. It has been gradually stript, and by the time the war broke out only three masts and one lower yard remained.[1]

It is a long way from the little medieval cog with her one sail to the huge five-master with nearly fifty for her ordinary working canvas; but every stage of the development can be traced, not a few in types still existing; in the appreciation of this continuity, as an instance of human ingenuity feeling its way towards the more perfect fulfilment of human needs, lies most of the fascination of the study of square rig.

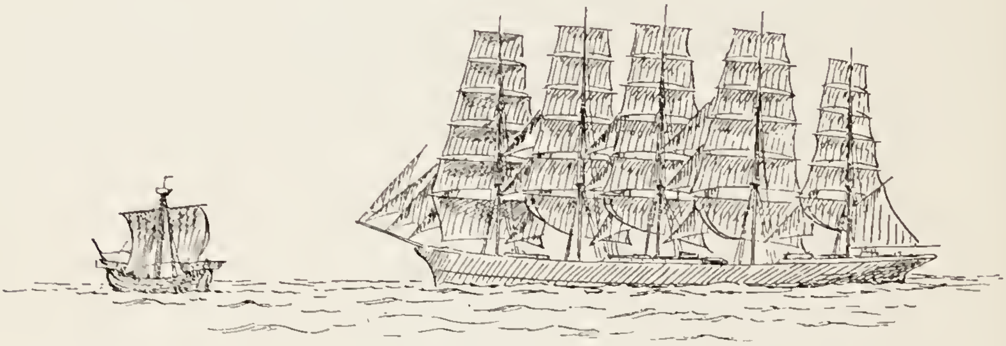

Fig. 75

SQUARE SAILS CARRIED BY FORE AND AFTERS

Square sail is carried by many vessels mainly fore and aft rigged, not merely for running before the wind, but as part of their ordinary working canvas. A hundred years ago this practice was far more general than at present, and a cutter sometimes set a topsail and a topgallant sail and studdingsails. In those days square rig was so predominant, and the art of seamanship so much the art of handling vessels under square canvas, that it was natural that it should be used far more than in our own time, when, not only have the capabilities of fore and aft rigs become better realized, but, owing chiefly to steam, square rig has declined from its pre-eminence, and men feel less that proficiency in its management is the only true work of a sailor. Similarly on shore in these days of motors a man of education minds less confessing that he cannot ride than he would have twenty-five years ago.

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[1] The names of her masts were Fockmast, Grossmast, Mittelmast, Laeiszmast (after her owner), Kreuzmast. *Mariner's Mirror*, March 1911.

Fore and aft rigged vessels with one mast, it is almost safe to say, never carry square working canvas nowadays.[1] In the year 1904 at Carnlough, co. Antrim, I saw a cutter or sloop-rigged trader with a square topsail,[2] but have never seen another.

A few topsail yard ketches may remain. I saw one at Chatham in 1910, and a little before the war one called the *Record Reign*[3] used to frequent the River Blackwater in Essex; but the rig was very seldom seen in English waters (fig. 76).

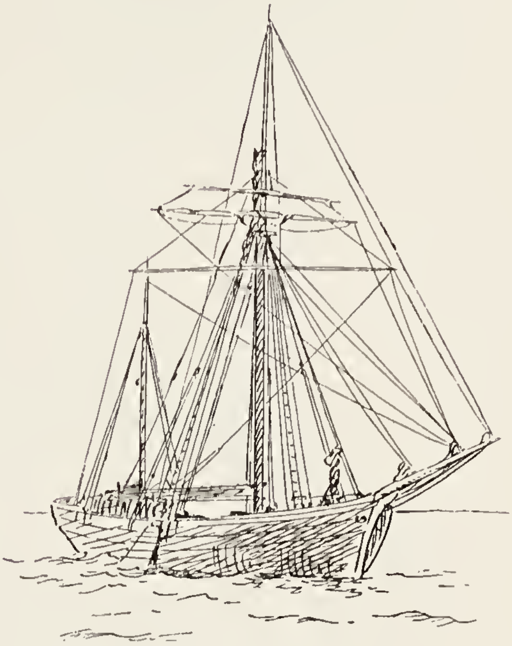

Fig. 76

In 1915 I saw a ketch, a Scandinavian or a Dane, in the Firth of Forth that carried a kind of square topsail, with both yards below the forestay (fig. 77). I have seen the same sail set in a three-masted schooner.

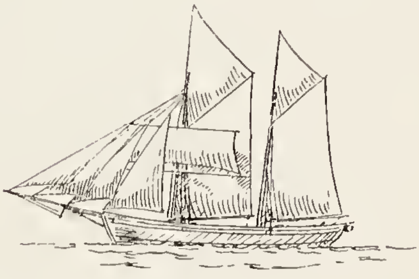

Fig. 77

English trading schooners nearly always carry square topsails, so much so that before the war, if a schooner without yards was to be seen in one of our ports one could be reasonably certain that she hailed from the Channel Islands, or, if a three-master, from Northern Russia.

It is not very easy to account for this retaining of square

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[1] I cannot speak for the Baltic.
[2] In 1922 I learnt her name, the *Eugenie*.
[3] Since stript of her yards and given twin screws.

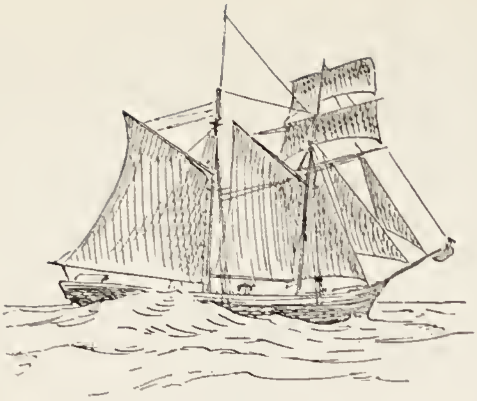

Fig. 78

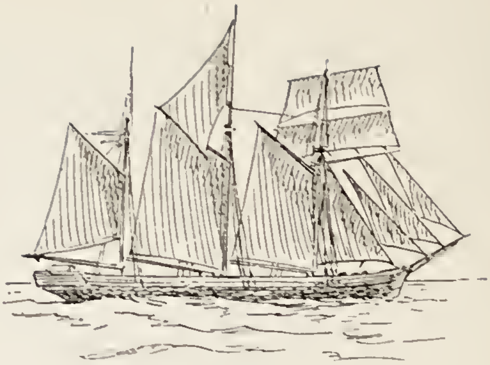

Fig. 79

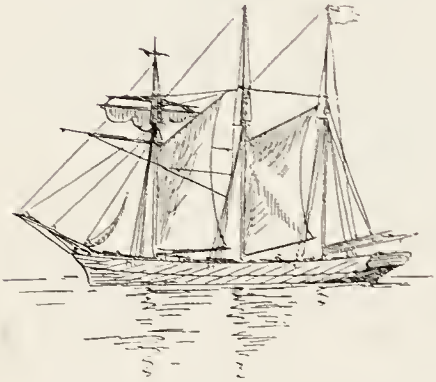

Fig. 80

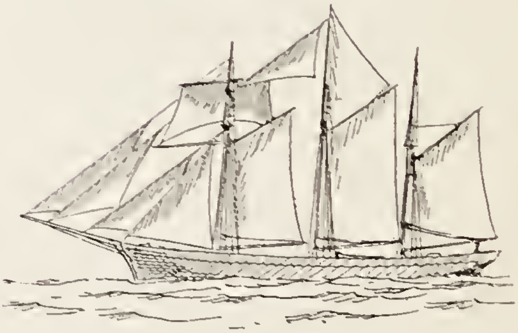

Fig. 81

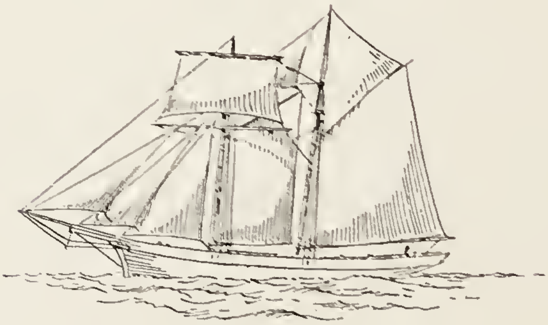

Fig. 82

canvas by fore and afters at the present time. Doubtless it is in part due to conservatism, not to a blind clinging to what is old-fashioned and awkward, from sheer dislike of change, but from the more reasonable reluctance to alter an instrument in the handling of which a man has acquired skill and which he feels he perfectly understands.

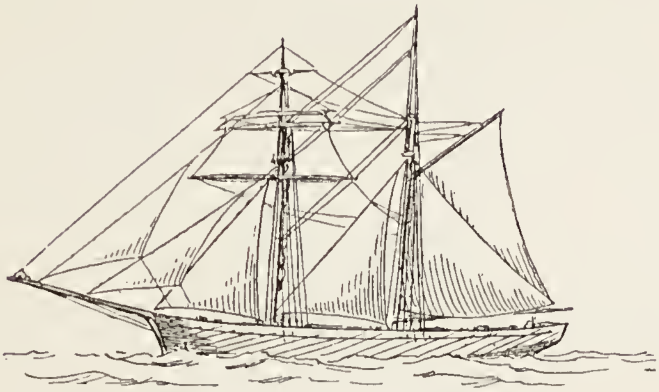

Fig. 83

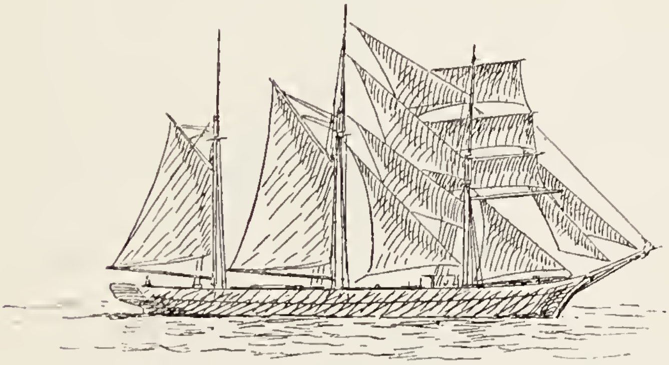

Fig. 84

If our coasting schooners could really compete with steamers, if therefore it were of the utmost importance that they should be fast and close winded, their square topsails would probably disappear despite certain advantages that they possess; but they have been beaten in the race and get only such trade as is not worth while for steamers to take, and therefore quick passages hardly concern them, so that they can afford to dispense with a little power of going to windward in exchange for the increased comfort in running in bad weather and more perfect control that their square topsails give them.

The ordinary topsail schooner sets an upper and lower topsail forward (figs. 78 and 79). The larger schooners, especially three-masters, often carry a topgallant sail as well (fig. 80). Sometimes, but rarely, instead of upper and lower topsail a single topsail is carried. I saw a three-masted schooner with one near Dungeness in 1915 (fig. 81), and a schooner with another off the Wolf Rock the following year. Such a single topsail has not the depth of a topsail on a truly square-rigged mast, and its appearance is not particularly striking. The French deep-sea fishing schooners often carry a single roller topsail (fig. 82).

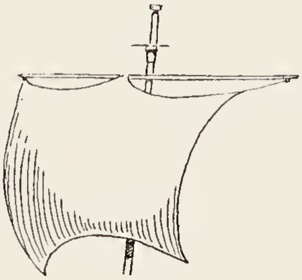
Fig. 85

Sometimes a schooner's topgallant sail is so small that it is furled yard and all inside the topsail.

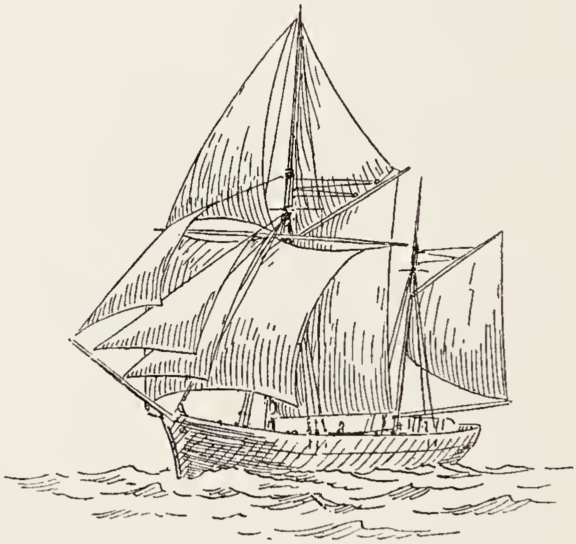
Fig. 86

Topsail schooners vary considerably in appearance. Some are almost brigantines (fig. 83), or barquentines (fig. 84), and even dispense with a gaff foresail, using a main and middle staysail in its place. It is not wonderful that nomenclature is inexact.

In 1916, coming into Gibraltar we passed a three-masted schooner towing out. She had studdingsail booms on her fore yard. She was flying the Red Ensign at her mizen topmast head, and probably hailed from Fowey (fig. 80).

Square canvas used by fore and afters solely for running before the wind remains to be considered.

Topsail schooners carry a squaresail, or flying foresail, for use before the wind. It is not bent to the foreyard, but is hoisted up to it by whips at the slings and yardarms (fig. 85). The head of the sail is usually narrower than the yard, and is hauled out to windward on to the yardarm opposite to the side on which the gaffsails are. The weather or outer clew is often spread by a light boom.

Fore and aft rigged trading vessels, which carry no square working canvas at all, usually set a squaresail when running (fig. 86). The practice is almost confined to vessels with gaffsails, though I have seen a spritsail barge carry one, and Turkish boats rigged with a spritsail also set a squaresail. Lateens and lugs which stand before as well as abaft the mast serve very well for running, since, when the yards are squared away, there is some sail on both sides.

Fishermen, most of whose time is spent lying by the wind with the trawl down or to drift-nets, and whose passages are comparatively short, find the extra gear not worth while. Yachts usually prefer to set a spinnaker, but those which go long voyages often carry a squaresail. In traders the squaresail yard is sometimes fixed permanently aloft, and sometimes hoists and lowers. When not in use it is topped up or stowed on deck.

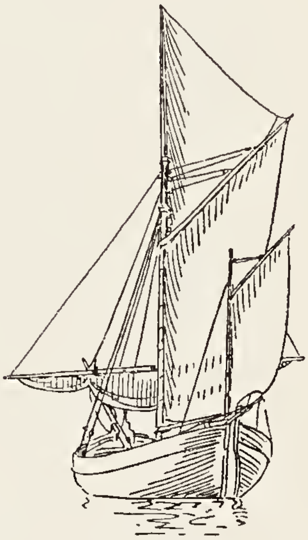
Fig. 87

In the Mediterranean the squaresail is generally kept bent to the yard and is furled beneath it, and when not in use the yard is lowered about two-thirds of the way down the mast (fig. 87). Why the practice should differ from what is usual elsewhere is hard to discover. It is probably an example of a difference due to custom and continuing from lack of communication between the peoples who differ in their use; for an English coasting ketch seldom if ever visits the Mediterranean, and the small coaster of the inland sea does not venture far beyond the pillars of Hercules.

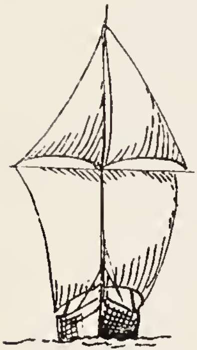

Fig. 88

Sometimes a sail is set above the squaresail yard, probably a staysail or jib generally serves, and this sail, though not square in shape, is used as square canvas is. It is set between the yardarm and topmast head on the opposite side to the gaff (fig. 86); but I saw once during the war a three-masted fore and aft schooner with two such sails set, one on each side (fig. 88). In 1923 another such schooner, from the Baltic, came into Southwick Canal near Shoreham. Her triangular topsails were permanent fittings and ran with hanks on the lifts of her squaresail yard. The lifts led to the topmast head.

Sails of this sort were formerly called raffees, but I have never heard the word used by a sailor.

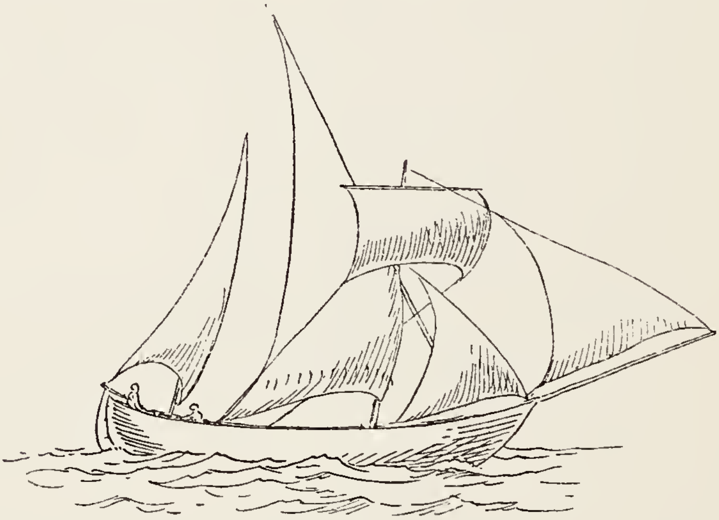

Fig. 89

In the Gulf of Salonika I have seen fishing boats rigged with one or two masts, and a peculiar half lateen with all manner of kites set before the wind. Several of these had little square topsails without any yard at the foot, the sheets being led downwards to the deck or near it (fig. 89). Some of the earliest representations of the square mizen topsail show no crossjack yard, and its absence in the pictures has been generally attributed to ignorance or carelessness. There is always a tendency to suppose that anything familiar that has not changed much for a long time differed but little when it was first invented, and so most people have assumed that the crossjack yard appeared as soon as the square mizen topsail—we know that it was *almost* as soon—but in view of these Salonika fishermen the question cannot be considered as settled.

SQUARE CANVAS CARRIED BY STEAMERS

The square canvas carried by steamers is interesting because it links the gigantic fabrics of the present century with the ships of the last generation. In recent years the size of steamships has increased so much that the resulting elaboration seems almost to make them different in kind from structures that are truly ships and not floating towns.

Steamers carrying sail may be classified as follows: (1) Fully powered vessels fitted with yards, the sails being chiefly for use in emergency and ordinarily useful only to ease the engines and so save a little coal on occasion. (2) Vessels with comparatively weak engines and large sail area. (3) True auxiliaries mainly depending on sail, but fitted with engines for use in calms and light head winds.

Most of the early steamships belonged to Class 2, and the development of the marine steam engine produced Class 1, which at the present day may be regarded as extinct. Twenty-five years ago many ocean-going single-screw steamers carried yards on the foremast,[1] a legacy of the days when perfect confidence in the engines was not felt; when this had been thoroughly acquired steamers were allowed to dispense with sails altogether as those with twin screws had already. Disused fittings, such as sheave holes, eye bolts, and iron bands, may often be seen on an old steamer's foremast, showing that formerly it carried yards.

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[1] *The British Merchant Service*, by Cornewall Jones, published about twenty-five years ago, shows in its numerous and excellent illustrations how prevalent the custom of carrying sail was.

Ships of Class 2 combining sail and steam have almost gone out of use for trade, though fifteen years ago the Hudson Company owned the barque rigged *Discovery* built for Scott's first Antarctic expedition and the last large wooden ship laid down in this country, and the *Pelican*, also barque rigged, formerly belonging to the Navy.

A few remain for other purposes. Some nations still use rigged training ships, and a few old foreign men-of-war still carry sail. Early in 1919 there was a French cruiser at Gibraltar, rigged as a barquentine with a single topsail. She had sent down her topgallant yard to make room for wireless gear.

I remember in 1907 the excitement of an elderly Gravesend public-house keeper on the arrival of a ship belonging to some Belgian Government service. 'A brig rigged screw; haven't seen such a thing for years,' cried the old man in the sea language of sixty years ago, when there were enough paddle-steamers about to demand particularization.

In 1905 I saw H.M.S. *Pylades*, barque rigged, with royal yards across, steam pass St. Margaret's Bay on her way to Sheerness. She was one of the last masted ships in H.M. service.

There is no hard and fast distinction between this class of vessel and the true auxiliaries, but except for a few yachts, auxiliary steam power had not found much favour. The ship-rigged *Valhalla*, taken into H.M. service during the war and unrigged, and the famous *Sunbeam*, a three-masted schooner fitted with studding sails, are the best known of recent years.

The internal combustion engine has revived the application of auxiliary power to sailing cargo vessels; but such craft hardly call at present for separate consideration in a book dealing chiefly with morphology, and with economics only as far as they affect change of form.

The square sail has been an element in history comparable with the use of the horse. It has been the instrument of war, commerce, and discovery, activities of which no man has not felt the consequences; and yet, so much apart is the life of the seaman, and so little is his art known, that in ages when men saw symbols everywhere and regarded the hilt of a sword even beyond the blade, they missed the emblem of the mast and crossed yard. And what escaped medieval imagery has largely eluded modern interest.

There are signs that this indifference is passing, now that sails are passing too; but it will be long before the forms of sails command as much attention as the shapes of arches. Yet they are at least equally important to the student of mankind.

IV

LATEEN SAILS

If a man on a voyage from the Thames to the Mediterranean were to observe the various craft his ship passed he would first notice, when clear of the huddle of shipping off Gravesend, the barges and bawleys in the river, the latter particularly in Sea Reach. If the weather were clear he might spy the cutter-rigged oyster-dredgers off Whitstable, and would still find barges whichever way he looked. Off the North Foreland might be a Boulogne lugger, and in the Downs all manner of shipping, steamers of course, large barges, a barque or two, the trim but trudging Dutch galliot, the neat Danish schooner, Ramsgate smacks taking the ebb down to Fairlee, craft under steam and at anchor or weighing with the first of the tide, vessels of trade, pleasure and war, and amongst them the Deal and Dover galleys slinking through the seas earning their keep every way, and no man knows how.[1] Then as he passed in reverse order the headlands mentioned in the noble old song:

The first land we made 'twas the head called the Dodman,
Next Rame Head near Plymouth, Start, Portland, and Wight,
So we sailéd by Beachy, by Fairlee, and Dungeness,
Where we bore right away for the South Foreland light.

Fresh craft would appear, the Cornish-built Folkestone luggers, the Dutch pilot schooners off Dungeness, the clinker-built luggers of Hastings, a schooner or two, a full-rigged ship or four-masted barque towing down Channel and slowly making sail; and so he would go on past lightship and headland, the small craft becoming rarer as the coast was gradually left, till the more westerly capes of the song lay below the horizon and only the Brixham trawlers would tell him that he was still in home waters. The Channel traffic is a wonderful sight, and yet to an untravelled Englishman it offers little but what is familiar. The ships he passes, or others closely resembling them, he has seen again and again in his native harbours, and, except for the Dutchmen, they most of them share a common likeness, some more, some less. But one day, when Ushant has become a memory and Cape Vilano has been sighted and the air has begun to feel gentler and warmer, he will spy a strange sail, something different from any he has hitherto seen, not only in its shape but in the way it moves, a sail with a high narrow peak set on a long tapering yard, a Lateen. When he sees that the voyager knows that he has entered a new province of Neptune, and the sight is like the first glimpse of flying fish or of the buildings of Southern Europe; he has passed under fresh influence and to a region with a past different from his own.

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[1] Written in 1919. The galleys and some other craft here mentioned have almost vanished since.

The origin of the lateen is unknown. Lateen means Latin, but many think that the sail came from the Arabs. It appears not to have been known to the ancient Greeks, or to the Egyptians. The Maltese call it a lateen. On the other hand, a Turkish vessel very common at Constantinople, rigged with a modified form of the sail, is called, I was told, an Arab *mahownah.* This name is probably valueless for the origin of the sail, unless it could be shown that from very early times the Turks had considered it to be Arabian; because, whether or no they were the inventors, the Arabs have used the sail for centuries, and at the present time prefer it to all others.

But whether it came from India, or from the Arabs, or was a European invention, a triangular sail probably began to rival the squaresail in the Mediterranean during the Dark Ages. The lateen is now especially a sail of Southern Europe and Northern Africa.

It is used by the Spanish and Portuguese on the Atlantic seaboard, but the lateen sail cannot thrive in Northern waters. It must have either a warm climate or smooth water, and prefers both.

Its introduction to the Northern nations, and its coming to form part of the ordinary rig of ships, has been mentioned in Chapter I. The word mizen preserves its memory. As a mizen it lasted some 300 years, but as a complete rig it was unsuitable. Before gaffs were popular it was given a trial,[1] but failed to establish itself.

On the rivers and broads of Norfolk and Suffolk, where the water is always smooth, lateen sails were used for yachts in the nineteenth century. I saw almost the last of these in 1902, in the River Waveney. She had a lateen foresail fitted with a boom and an ordinary gaff mizen. She had a straight stem and the foremast was right forward. The yard was considerably longer than the boat.

There are two principal forms of the sail, the triangular (fig. 90) and that with a short luff (fig. 91). The latter is the more common, and is sometimes called a settee. The settee shades off into the lug, and it is sometimes difficult to draw the line between them. Where doubtful I shall consider the origin of the sail in question and place it accordingly.

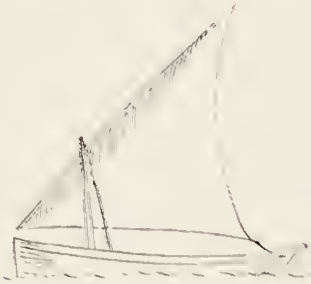

FIG. 90

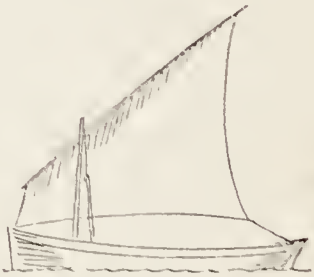

FIG. 91

One day in the Orkneys I was describing the Mediterranean craft to a Scotch steam-drifter skipper, and drew him a rough diagram of the boats that ply between Malta and Gozo. 'I've seen craft with sails like that at Stornoway,' said the skipper. He described them as open boats with painted ports, having one mast and a yard as long as the boat. This was in April of 1917. I made several inquiries of other fishermen, but never met any one else who knew the type till, in November, I found a man in Haslar Hospital who came from Stornoway. He had a fatal illness for which there was no remedy. I asked him if he knew of any craft such as the drifter skipper had described. At first he said he could not recall having seen any such boats, but in a little while he remembered that at Ness, in the Butt of Lewis, he had seen vessels of the kind. He described them as large open boats, 22 to 30 feet long, with a beam of 8½ to 11 feet as near as he could remember, built only of larch, with four thwarts. He said their stems were like a ——, and here he hesitated for a word, so I suggested 'scarphie'. 'Yes,' he said, and described the curved raking stem. The stern post he said was also raked, like a 'Zulu's'. He called them in Gaelic *Scho,* pronounced 'sco', and said they were used for line-fishing for cod and ling. Some were painted with gun ports. The sail he described as the drifter skipper had, and said that a man standing on the foremost thwart could touch the forward yardarm. The sail, he said, was low and not high peaked. Now such a craft, if her sail really is as described, is almost a lateen, descended from a lug that for some local reason has been found suitable. Probably the sail is between a lug and a lateen, and affords an example of a doubtful form. Had I seen such a sail in the Mediterranean I should have described it under lateen, and had I seen it in the Hebrides, under lug. But I have not seen it.

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[1] We read of Newcastle carvells in Sir Hy. Manwayring's *Seaman's Dictionary*, a work of the early seventeenth century.

Of the rigs of Portugal I cannot write, having never visited a port or been near enough to the coast of that country to study the local craft. If the ship has kept at a distance from the land on a Mediterranean voyage it is not till the Straits of Gibraltar are entered that the prevalence of the lateen is realized. Then, as the shores close in on either hand, the little white triangular sails are seen on all sides. In most parts of the Mediterranean the lateen is the ordinary rig for small boats, just as some form of lug is in our own seas.

In the Straits a kind of small open boat is often met with—a high stem, and a pointed stern, a forward raking mast stepped amidships, and a yard that to Northern eyes looks immensely long (fig. 92). The forward yardarm comes well out board over the bow, and almost touches the water. Often a jib is carried on a high-steeved bowsprit. The mainsail is reefed to the yard, and when reefed there is no peak or tack left, the sail left out occupying the middle two-thirds, or thereabouts, of the yard (fig. 93).

A larger craft that I once saw in the Straits, bluff in the bow and with the same high stem but with a counter stern, had a motor and was using it to assist her sails. She probably carried about twenty tons of cargo. She was rigged like the small boat, and her sail also reefed at the head. There were two rows of reef points.

The Biserta fishermen reef both at the head and foot (fig. 94). They are small, sharp-sterned boats with a pronounced sheer. They set a jib and their yard has a lift to support the peak.

Reefing at the head of the sail is, of course, the ordinary way in a square rigger; but for a boat's sail seems strange to people accustomed to lugs and gaffsails. The reason for the practice is obvious: by reefing at the head of a lateen a far greater reduction of area is obtained than by reducing the sail at the foot, and the balance of the sail on either side of the mast is maintained.

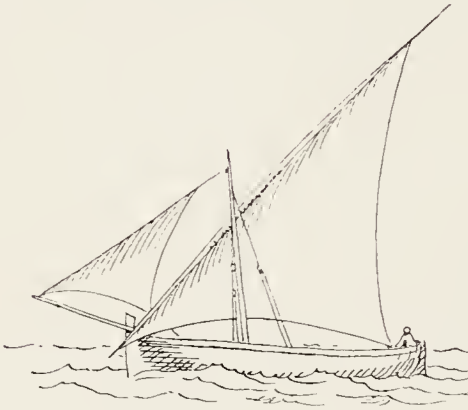

Fig. 92

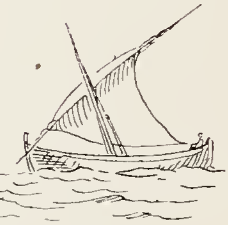

Fig. 93

Other lateen customs are remarkable when first met. I remember watching some men in Marsa Sirocco, one of the harbours of Malta, furling the sail of their very small boat, only twelve or fourteen feet long. They lowered the sail half down and then furled it beneath the yard, which done, they hoisted the yard again and left it aloft. This yard was short enough to have been stowed in the boat, but in most lateeners the yard is so long that it is kept aloft to be out of the way.

Nothing strikes the new-comer so much as the great spread of sail of the Mediterranean craft. It is made possible by the quality of the wind in those parts. Every sailor has noticed that it has not the weight of the Channel breezes. It may blow at the same rate, but it is not so pressing. Probably the saturation of the atmosphere has something to do with it. Whatever the reason, it enables the Southern sailor to use larger and lighter sails than those that can brook our colder airs. Moreover, though a nasty sea can get up in the Mediterranean, its vessels are not subject to the punishment that ours undergo in a strong breeze and a weather-going tide.

Even when this is realized, the sail-carrying power of craft like those just described is astonishing, and I was puzzled at seeing the Port Said *feloukas* with their long tapering yards sailing in winds that almost forced a service whaler to reef. However, by watching the native boats the explanation was discovered. The secret lies in the elasticity of the yard, which is as whippy as a fishing rod. In a strong puff it bends and spills the wind out of the peak of the sail before its force heels the boat dangerously, and directly the puff is spent it springs back to take advantage of the true wind.

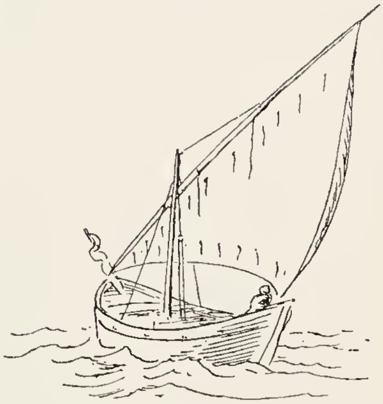

Fig. 94

I found these *feloukas* clumsy to handle. Even with a foresail, which a few carry, they gripe and are slow in stays; and when the sail is to windward, for they do not dip the yard, the part before the mast is almost useless. The sail is bent to the forward part of the yard, and the peak is hauled out to the after yardarm, the head of the sail running on rings. The yard is kept aloft, and the outhaul is let go when it is wished to take in sail and no furling is necessary. The forward part of the sail is too small to require stowing under ordinary conditions. The sail is not quite triangular but has a short luff. It is usually fitted with a brail (fig. 95).

The North-Eastern Mediterranean is very cold in winter, accordingly its lateen sail has become very much modified, and where something of the ancestral form is retained it approaches the lug, and is shrunken and shows the influence of the spritsail which is the favourite sail for small boats in the Greek islands.

In October 1918 we were lying at Stavros, and one day a boat came alongside manned by four monks in brimless tall hats (fig. 96). They had come from Mount Athos, and were taking corn and oil to some people farther up the coast who were starving, as many were at that time. The visit brought home strongly the physical and economical differences between that country and England. It was as though some monks of Quarr Abbey near Ryde had manned a little boat in Wooton Creek and had set out under oars and sails to carry food to people in distress at Broadstairs, calling on a man-of-war belonging to a distant Power lying in Dungeness East Roads; and wearing tall hats all the time. In a tideless sea where the weather is known, long voyages in boats can be made with far less labour and risk than by coasts where nearly every headland has its race and can hardly be rounded even with a fair wind if the tide is foul.

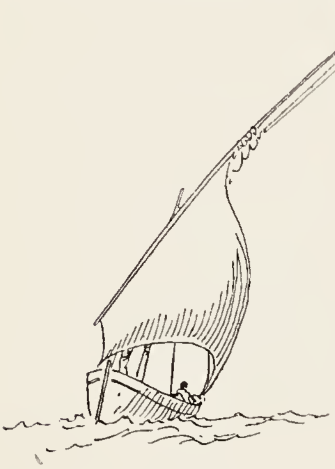
Fig. 95

The monks' boat was about twenty feet long and perhaps six feet in beam. Like all Mediterranean boats she was carvel built. She had rather high curved stem- and stern-posts with their extremities curiously shaped. She had blue topsides, and was red at the water-line. She had decks at bow and stern connected by waterways, and in the after deck, which was the smaller of the two, was a hatchway in which a monk stood to steer and row facing forwards. She had a rudder curved like the stern post and projecting above it, and upon the rudder head was fitted a tiller shaped so as to bring its fore end within easy reach of the helmsman. A foot or so from the rudder-head it curved suddenly downwards. The curved part was decorated with a spur just beyond the angle, if the junction of a straight and curving part can be so called, and with red and blue stripes like a barber's pole. She had a bowsprit on the starboard side of the stem, with its heel in an iron on deck, and supported by rope shrouds and a chain bobstay. The mast was stepped through the after part of the fore deck and had two rope shrouds and a rope stay to the bowsprit end. The lower end of the stay was turned back and seized. The masthead ended in a kind of finial. The yard was about the same length as the boat and was not much peaked up. The halyard had two single blocks, the lower fitted with sister hooks, which supported the yard by a strop and thimble. There was also a lift or peak halyard with a block on the yard and the standing part at the mast-head. A line clove-hitched round the yard near the peak halyard block served as vangs. The lateeners with high peaked sails generally have no vangs, because, as has been mentioned above, the sagging to leeward of the yard in a strong wind is a safeguard; but this sail, with its yard more horizontal and shorter, could use them with less risk. The sail was a settee. The tack was made fast to a ring-bolt on the foredeck. The sail was bent to the yard as far as the mast, abaft which it ran on rings as far as the peak halyard block, and thence the peak had no support

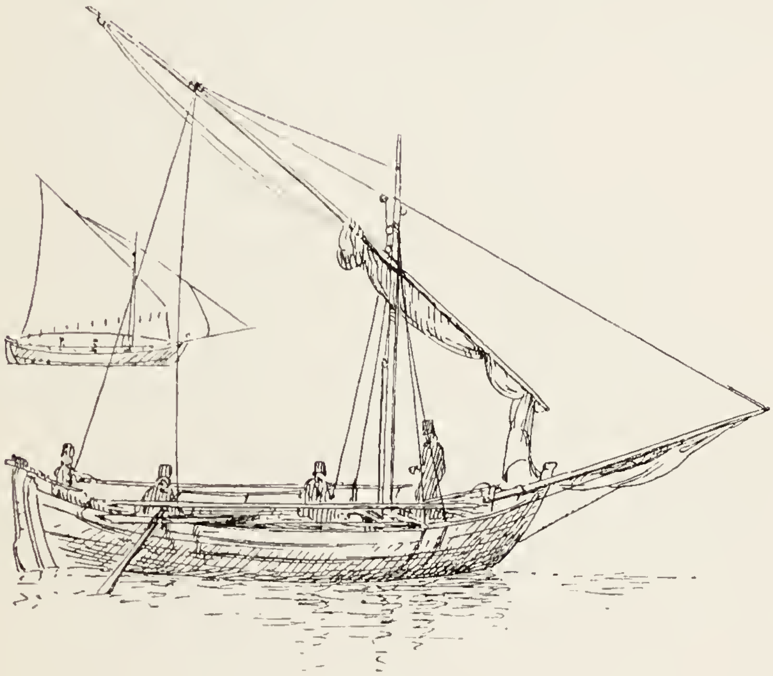

FIG. 96

but the outhaul which rove through a block at the yardarm.

There was one row of reef points running from the fore yardarm to the clew, where one or two were tied; the main sheet, to the best of my remembrance, was a single line. The small jib was shaped almost as an equilateral triangle. It was very low in the foot. The halyard rove through a block at the same height as the mast-block of the peak halyard.

Such a craft may be thought too insignificant for detailed description, and at the present time its interest is small; but in the times in which we live change is so rapid that the most ordinary objects may become rare any day and be forgotten the day after.

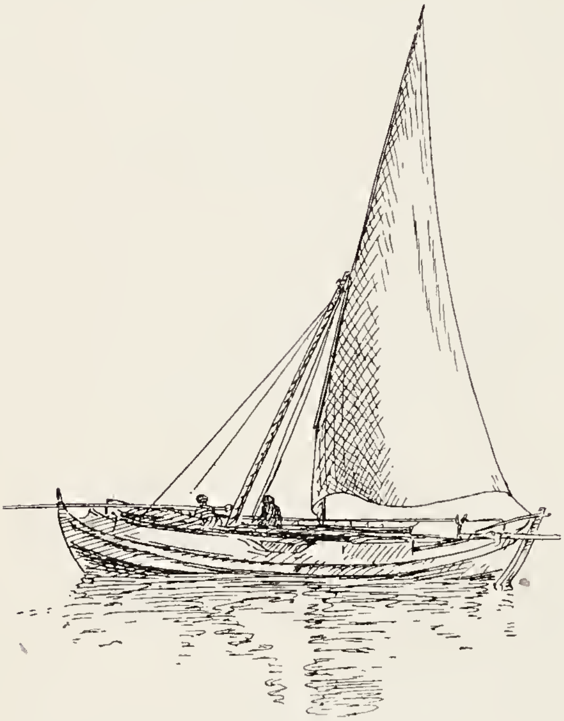

FIG. 97

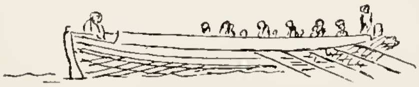

FIG. 98

At Salonika the lateens and settees are comparatively rare, and squaresails, lugs, gaffsails, and a much modified form of the lateen, hold sway. There are, however, some fishing-boats with peculiarly graceful lines that set a small lateen with a short luff. These craft have sharp sterns and a great sheer and beautifully curving stems. Their white topsides are relieved by a band of mingled colours which sets them off to advantage. The mast rakes aft, and the sail, when the wind is faint but fair, is set abaft it. By the wind they set a foresail. They have another yard and sail, but I never saw them used (fig. 97).

A large boat, depending almost entirely on oars, is used in the gulf for carrying merchandise (fig. 98). It has a high stem and beyond it what looks like a curtailed form of the old galley beak. I have seen one pulling five oars aside, the aftermost pair of rowers being nearly amidships between stem and stern. They and the cargo are protected by a strip of canvas running along each gunwale. Beneath this canvas the oars protrude, and above it appear the heads and shoulders of the crew. I have seen such a boat with a small true lateen set.

In 1918 there were some Italian fishing-boats at Salonika lateen-rigged on a single mast. They had very long yards on the after part of which the sail ran on rings. The hull had a big rise forward and was low aft with narrow quarters. They were dingy and lacked paint, but on festal occasions used to display immense swallow-tailed streamers that reached from the yard-arm almost to the gunwale. The head of the streamer was spread by a short yard, from each end of which hung a little swallow-tailed banner.

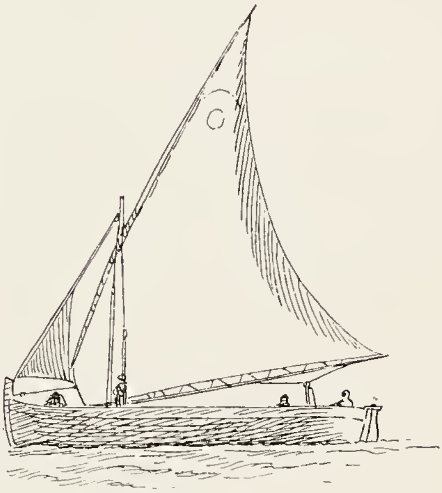
Fig. 99

The fishing-boats of Port Said and Suez use a modified lateen (fig. 99). These are stout boats, perhaps thirty feet long ; they have short decks at bow and stern. The stem is high and recurved and the quarters are full. The yard, which is hoisted on the port side of the mast, is very stout and is strengthened by fish pieces, and often the after yardarm is formed by a small separate piece lashed on. This little stick—it is hardly more—is very common and is found in widely separated places. The great length of some of the yards cannot be the only reason for it, because it is often found in the smallest boats. So usual is it, and at times so apparently useless, that I have wondered if its origin did not lie in superstition or ritual.

The sail is loosely bent to the yard and its foot even more loosely to a slight whippy boom. The tack and clew are fast to the boom, and the after two-thirds or so of the foot is confined by small pieces of stuff which leave nearly a foot between the spar and the sail. It reefs on the foot. Beneath the boom is a stout span to which the upper blocks of the two main sheets are made fast. Near the mast is a tack tackle. When the sail is set and full of wind the boom curves one way and the yard the other, which makes the sail look very different from the ordinary lateen.

The peak of the sail is generally coloured, and below the coloured part is often a disk or other device. The sail has a luff which rakes forward, instead of aft, the fore end of the boom not coming as far as the fore yardarm. The luff is kept taut by a tackle to the stem. I know of no other lateen sail with which such a bowline is used.

A little foresail is carried, almost an equilateral triangle in shape, with its tack to the stem-head, and sometimes a jib of like shape is set on a light high-steeved bowsprit. Before the wind a jib is often boomed out like a spinnaker, and I have seen a small sail set below the main boom.

For standing rigging there are two tackles on either side, the foremost with a short pendant, and the after with a long one. When the sail is furled the boom is topped up, and a man standing on the end of it can just reach to furl the peak with the knittles or gaskets which hang from the yard. The yard is kept aloft and the halyard is stopped close to the mast.

I inquired what these craft were called, and was told a name that sounded like *Samak*. I naturally supposed that this was the French *Semaque*, i.e. smack, in the mouth of an Egyptian; but I have since learnt that the Arabic for fish has nearly the same sound, and it is quite possible that the fisherman thought I was asking what his boat was for.

Till well into the nineteenth century comparatively large vessels in the Mediterranean were rigged with lateens; but at the present time, though the rig is so common for boats, there are not many craft of any size that use the sail. One of the largest is the Italian *tartana*, which is still found in considerable numbers. In former days, when they were relatively of more importance than they are now, *tartane* were so well known that the name was anglicized to *tartan*, and Falconer gives it in his dictionary of 1769. ‘Tartan sail' was even used sometimes instead of 'lateen sail'. Yet I have never met an English sailor who knew the name, or for the matter of that the rig, and many are uncertain in their idea of lateen, though as a rule they are vaguely familiar with the word. It is natural. Such small vessels no more come within the ken of the ordinary modern seaman than the little ports that a hundred years ago deemed themselves important. Ask a merchant service officer to name the ports of the south of England, and he will tell you that unless you count Dover there is only Southampton. It will not occur to him to mention Ramsgate, Sandwich, Folkestone, Rye, Newhaven, Shoreham, and Littlehampton, to go no further.

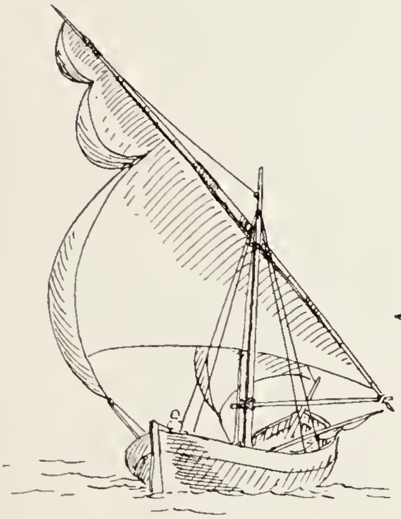

Fig. 100

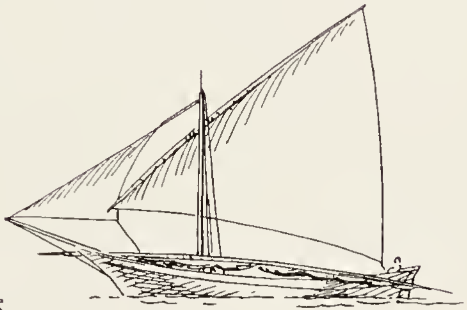

Fig. 101

There is nothing particularly noteworthy in the hull of a tartan (figs. 100 and 101). She has a bow and stem like any small coaster and has an upright stern post and no counter. The length varies, but few look more than sixty feet long. She has one mast and a bowsprit, and her ordinary canvas consists of a jib and a large lateen mainsail. The details of the gear vary in different craft. Some have a jibboom and set a flying jib as well as a jib. I have seen the bowsprit shrouds part chain and part wire, the wire before the chain and set up with lanyards to the bowsprit end instead of the more usual position at the bows. The mast of the same craft had two hemp shrouds aside set up with deadeyes and lanyards. Two yards and two sails, both true lateens without luffs, are carried. One yard is larger than the other, and in all the tartans I have seen is hoisted on the port side of the mast (fig. 100). It is a huge spar for the size of the ship. It is usually made of at least two pieces scarphed and woolded together, and a third piece at the yardarm that has a makeshift appearance. When the great yard is lowered it sticks out several feet ahead and astern. Sometimes the lower end of the yard is controlled by being lashed to a stout spar that pivots on the mast. Peak halyards are sometimes fitted, and there is usually a single vang, though often pendants for two. I have seen a couple of brails at the peak.

The most interesting fitting is the gear for swaying up the great yard. It is almost the same as that used for the lower yards of ships in the sixteenth century. The yard hangs by double tyes which are but a single rope. It is rove through a hole bored transversely in the upper halyard block and middled so that the block is in the bight. The ends are then led through two sheave holes side by side in the mast from aft forward and then come down before the mast and make fast to the yard. The upper halyard block—in the sixteenth century called the ramshead—has sometimes three sheaves, arranged one above and two below, through which the falls of the halyard are rove. I have seen the standing part come to a bridle rove through another transverse hole or dumb sheave in the lower part of the block, which has no strop. The lower halyard block in the same vessel was a huge chunk of wood secured to the deck by a chain passing through its lower part transversely. It had three sheaves abreast, as in an ordinary threefold block, but before reaching them the falls passed through holes in the projecting upper part of the block. The use of this arrangement may be to lead each part more directly to its proper sheave. It would also prevent the block capsizing if it were hanging clear, but since the chain confines it closely to the deck there can be small risk of that. Projecting from either side of the block, and inclined upwards, was a kind of horn on either side, used for hanging coils of rope upon.

Another tartan, instead of the curious upper halyard block hanging from the bight of the tyes, had two separate tyes each ending in a block of ordinary pattern through which the halyards were rove ; and the lower halyard block had four sheaves and was fixed to the mast in some way I could not discover. It also had horns, but they projected above and below on each side, and either pair could be used for belaying a rope.

To the best of my remembrance the yard is confined to the mast by an ordinary parral of trucks. The smaller yard of a tartan I examined closely was slung from a tackle of which the upper block hung by a long strop from the mast head. Whether this tackle was used as a halyard, or whether, when the strength of the wind required the smaller sail, the tye was unbent from the great yard and used for the smaller, I did not discover ; but I think the latter probable because there was a large tackle of no apparent use set up to a chain plate before the rigging on the port side, which may well have served to take the weight of the great yard when the tyes and halyards were wanted for the other. There were also two small masthead tackles, the use of which was obscure.

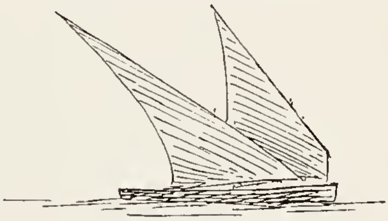
FIG. 102

Tartans often unship their rudder when in port. When there is no counter the rudder naturally runs some risk of damage from quay walls and other vessels.

The craft I principally examined had bolted on each side, a little abaft the chain plates and a foot or so above the water, an iron placed horizontally and curved at each end. This I was told was for use in hauling up, a process, which in the almost tideless Mediterranean, is presumably required as often as the growth of weed demands a scrub.

Vessels with two masts carrying lateens are not very common in the Mediterranean. I have seen the rig dimly through haze off the coast of Portugal, but could make out little beyond observing the truth of the seventeenth-century writer who compared the appearance of the sails to a pair of tailor's shears (fig. 102).

At Gibraltar a handsome type of craft is seen, about as big as a twenty-ton yacht (fig. 103),[1] and yacht-like in appearance, with a straight stem and a counter. Some have a stem sticking up a couple of feet or more above the deck level. A jib is carried on a bowsprit with little steeve. The mainmast, or foremast, is stepped about in the position it would occupy in a ketch, and rakes forward. The sail is a true lateen and reefs at the head with two rows of reef points. The mizen-mast is stepped abaft the rudder-head and the sail is sheeted to a bumkin.

When running, the mizen has a strange appearance because the yard is kept abaft the mast and the tack is eased till the yard is nearly horizontal; the sheet, however, is kept hauled out so that the after-surface of the sail faces upwards as well as aft. The mainsail is sometimes set in the same manner. Once in 1916 I saw a somewhat similar vessel before the wind off the coast of Tunis (fig. 104). She had no mizen bumkin, but the clew of the mizen was boomed out as that of a lug might be. The sail was abaft the mast and peaked up. The mainsail was also abaft the mast and had a light boom at the foot.

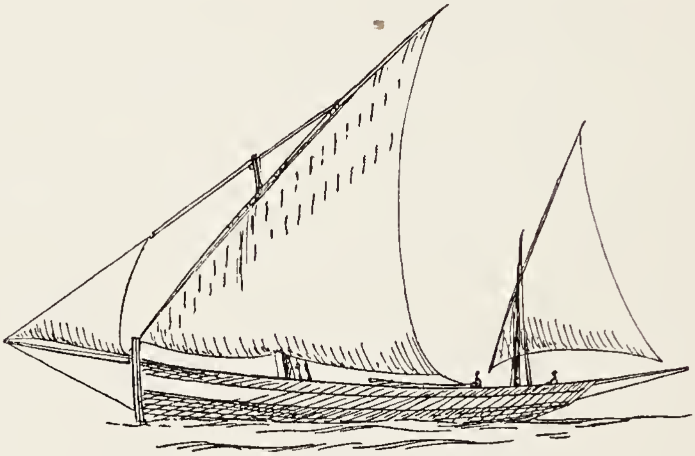

FIG. 103

The appearance of a craft running as this was with peaked yards differs markedly from one that has let go her tacks. There are four principal positions in which a lateen may be set before the wind (fig. 105).

(1) The yard and sail before the mast with the yard peaked.

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[1] The mizen-mast is shown a little too far forward.

(2) With the yard and sail before the mast and the tack eased till the yard is nearly horizontal.
(3) With the yard and sail abaft the mast with the yard peaked.
(4) With the yard and sail abaft the mast and the tack eased.

In no other sail is such a variety of positions to be found, and its ability to be set in so many different ways makes the lateen and its handling a fascinating study. It would be interesting to try and discover whether men who have come under the influence of square rig tend to carry a lateen differently from those whose 'eye' has been formed by the contemplation of fore and aft canvas and especially gaff sails. There is some evidence that the latter prefer to keep the sail peaked, and that in the early days of the lateen in the Mediterranean the yard was more often squared than at present.

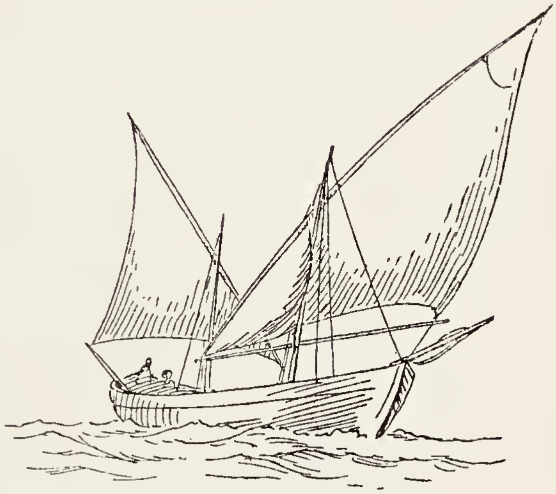
Fig. 104

A fine type of two-master, though not very large, is found in the vessels which ply between Malta and Gozo (fig. 106), and all the boats of these islands are interesting.

When a ship comes to her berth in the Grand Harbour at Valletta she is surrounded by a throng of boats as different from anything English as is the country in which they invite the new-comer to land. Their most noticeable features are their brilliant colours and the high stem and stern post. They are nearly always manned by two rowers who stand facing forwards. The stroke is curious. The oar, which is attached to a thole pin abaft it by a strop, has no weight put upon it till it is at right angles to the fore and aft line of the boat. Just before this position is reached the blade is dipped slantwise, and at the right moment the oarsman bends heavily forward upon the loom and takes what looks at first a very short stroke. The blade having been put in obliquely allows the oar to be used to help in the recovery of position, and is then brought forward for the next stroke. Both men seem to steer and to interpret each others' intentions in a wonderful way. These craft are called *dghaisas, dghaisa,* pronounced *dysa,* being merely the Maltese for boat (figs. 107 and 108). The word has, however, come to be particularly used for the commonest type at Valletta, the passage-boat used for traffic between ships and the shore and about the Grand Harbour and Marsa Musciet. The *dghaisa* has a small deck at each end, often covered with oilcloth, upon which the intending passenger steps, steadying himself as he does so by laying

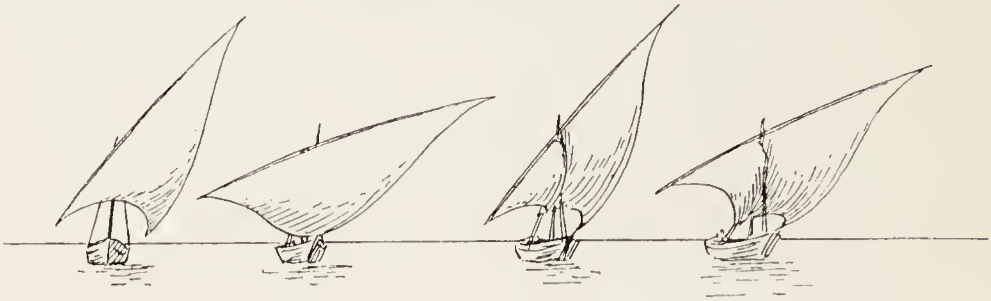

Fig. 105

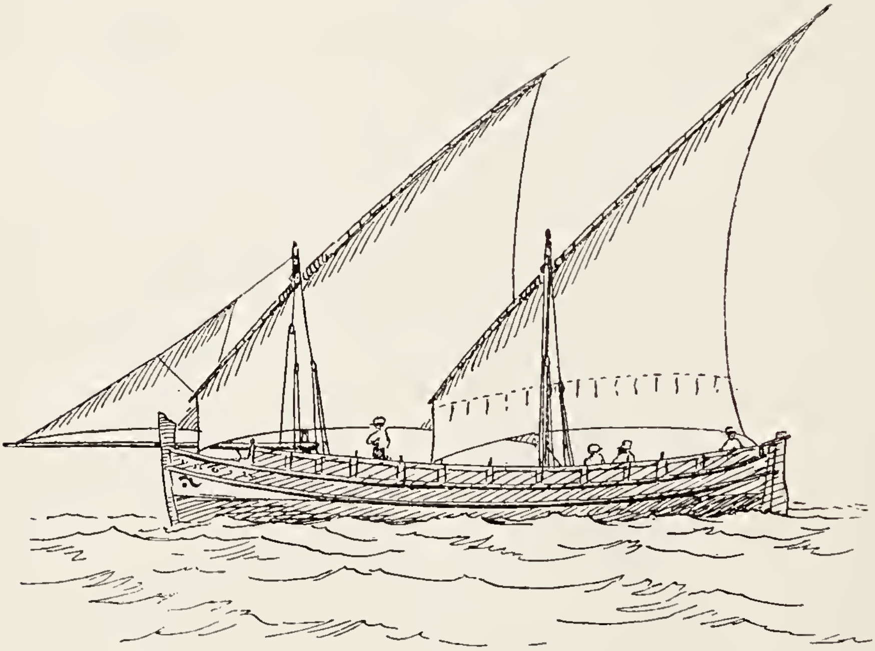

Fig. 106

his hand on the curved and upward slanting top of the stem. The *dghaisa* men say that the purpose of this high stem, which looks rather like the blade of a Turkish scimitar straightened, is to provide something to hold on by in embarking or disembarking. This is probably not the real reason, because it would be generally easier to step on board if the stem were no higher than the gunwale, for the bow is narrow with little room on either side. The high projecting piece is called the *rota,* which obviously means the wheel. It was suggested to me by the learned Dr. Temistocle Zammit that the name comes from the Maltese *gondola,* a craft now less used than formerly, which has its stem and stern posts surmounted by spirals to which the name *rota* fittingly applies.[1] (Fig. 109, made from a very imperfect sketch, gives some idea of them.) These spirals are too large to be stepped over with comfort, and so it is not surprising that if for some mysterious reason a prolongation of the stem should be insisted on, one that by its height helps to remedy its own inconvenience should be preferred to one that offers plentiful occasions for stumbling. With a high stem a high stern post is almost necessary, both for appearance and to balance the paying off effect of the stem when the wind is anywhere but directly ahead or astern. The *rota* is often varnished and edged with brass.

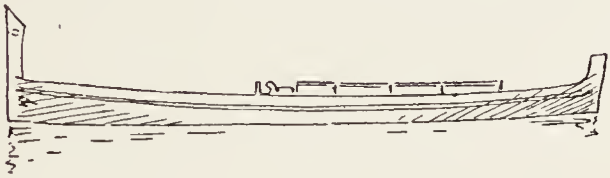

Fig. 107

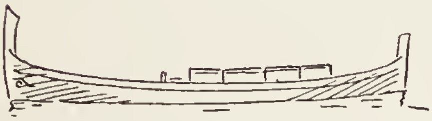

Fig. 108

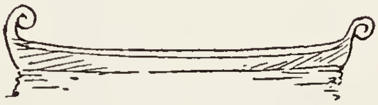

Fig. 109

Even more mysterious than the *rota* is the eye which some *dghaisas* still display on each bow, and which is common upon the fishing-boats and Gozo boats. Among the *dghaisas* it is fast disappearing. Its origin is unknown.

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[1] Since writing this Mr. Nance has pointed out that *rota, di proa,* or *della poppa* was the old Italian for stem and stern post, the comparison being with a quarter of the felloe of a wheel.

The extent of Phoenician influence in the history of Malta is disputed, but it is thought by some that this eye is one of its relics. Whether any meaning is supposed to attach to it I did not discover. It is very difficult to get accurate information in such matters. The owner of one *dghaisa* believed in not taking unnecessary risks. His vessel had the eye, and painted beside it a hand with two fingers extended, forming the well-known talisman. Though the eye has become rare, nearly every *dghaisa* has a device of some kind on the bow, and often a medallion or other ornament on the backboard of the passenger's seat.

Above the gunwale is a wash strake formed by several movable panels. A *dghaisa* man, when asked what one of these was called, replied that it was wood. These panels are often carved and varnished, and sometimes the ends of the wash strake are finished off with sphinxes or crouching lions.

The older *dghaisas* have a more seaworthy look than those recently built ; their sheer is gradual and easy, and they taper naturally towards stem and stern. The new boats have little sheer till near the ends, and then they rise steeply in curves which the eye has not been led to expect (fig. 107). Their shape makes the lofty stem and stern posts appear too high, and to be set up in caprice instead of seeming the natural results of the in-gathering of the lines of the hull. The newer boats also carry their beam as far forward and aft as possible, and then narrow too suddenly.

The workmanship is first rate, and many of the boats are so spick and span that they show how great is the pride their owners take in them.

Gondolas are not much used. Some officials have them. Sometimes they are fitted with rudders and rowed in the ordinary way.

For fishing a boat, called a *ferilla,* is usual (fig. 154). At first sight a *ferilla* is easily mistaken for an ordinary *dghaisa* ; she is brightly painted and has a high stem. She is, however, broader in proportion to her length, and her stern post is shorter to allow the tiller to pass more conveniently above it. She sails, which a *dghaisa* never does. She will be described later on.

Small but heavily built boats with a transom stern and an abrupt rise forward are called *caiques*. They are nearly always painted black. I have seen one with a spritsail set, but generally they do not sail.

A *fregatina* is a very small boat, sometimes no longer than the height of a man. It has a transom stern and is in fact a little carvel-built dinghy. *Fregatinas* are painted in colours, but not in the brilliantly contrasted hues of the *dghaisa* and *ferilla*. They are used for line fishing in harbour and are so small as to look comic, especially when the fisherman is fat.

A *luzzu* is another very small boat with a pointed stern and no features of interest.

Sometimes one of the peculiarly Maltese boats, usually a *ferilla*, has a false stem before the true, and the line of the strake below the gunwale is continued forward to a projection on this false stem. It looks like vestigial remains of the old galley beak, and its name in Maltese means beak (fig. 110).

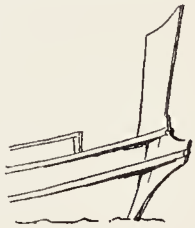

Fig. 110

Puzzles of this kind crop up all over the Mediterranean. Several have been mentioned in the course of this work, viz. the little piece lashed to the end of a lateen yard, the *rota*, and the eye. And why do the little boats at Catalan Bay at Gibraltar, which also have high stems, have a kind of notch in the fore edge, and why do the stems and sterns of the small boats at Genoa rake forward and aft respectively like a man-of-war's ?

Paint and ornamentation too offer a wide field for study. Why are some nations so fond of paint and others so neglectful ? Brilliant colours seem sometimes to accompany a mere love of display, and sometimes to be the outward sign of the pride taken in a vessel by her owners or crew.

Among the Western nations at the present time, pride in a vessel is generally shown by trimness rather than by colour. The craft are neat but not gaudy ; whereas Eastern vessels are often gaudy but not neat. A brightly and tastefully painted hull will be fitted with ramshackle, untidy gear. To Western eyes, so much do we associate pride in a ship with neatness, such painting appears to be less due to pride than to an appetite for colour which the decoration of the hull gives an opportunity for satisfying. When an Arab craft is dingy she is very dingy, like the shapeless ill-built huts of some of the mean villages of the desert.

We have in England a curious parallel with this Eastern coloration in the decoration of canal boats, vessels in which, from their mastless sluggishness and the unadventurous nature of their work, it is unlikely that much pride can be taken. They are for the most part ugly and drab, but at bow and stern there is an efflorescence of bright hues ; so much so that on seeing them one is immediately reminded of gipsies. I have little doubt, on this evidence alone—for I have never studied them—that the inhabitants of canal barges, if not now gipsies by race, have inherited their traditions.

Among some Western nations which do not use brilliant paint, such taste for colour as they have, or their love of display, is satisfied by devices at the mastheads and brightly-coloured streamers. The gilt crosses and coloured pennants of some French fishermen give them a festive appearance, and look as well above the masts and rigging as do stained-glass windows above tall ribbed columns. The huge streamers of certain Italian fishing craft have been previously mentioned.

The Maltese boats are both gaudy and trim. Is it because that in Malta East and West mingle ? The language is essentially Arabic, written in Roman characters. The men dress like Europeans, the women in a half-Oriental style. Their clothes are drab, but their churches, their country carts, and their boats are brilliant.

The small Greek vessels show a similar phenomenon, but their colours are less brilliant. They are beautifully trim.

In former days when, in the West, pride showed itself more in decoration than at the present time, men-of-war were smothered in ornament. It was thought that what belonged to the King or State should be splendid and pleasing to the eye, so the soldiers were grandly dressed and the ships were carved and gilded—the sailors who did not show might dress as they would, or could. The fashion being set, merchant ships probably half-unconsciously followed it. Gradually during the eighteenth and nineteenth centuries, perhaps as the person of the sovereign became more remote, the spirit of pageantry vanished from war, and war, as it became more complicated, left less superfluous energy to expend in display, till in the first years of the twentieth century, but not till then, men-of-war ceased to bedizen themselves and were painted grey all over ; just at the time, be it noted, when the South African War had decided that khaki was to replace finally the scarlet coat.

The wonderful fittings of modern passenger ships, decoration within the ship far surpassing the treatment of the ship herself as an artistic unit, is merely a lure for landsmen, but encouraging because showing that beautiful work does attract.

A sailing ship appeals far more to her crew than does a steamer to her deck hands. A real sailor will talk at length about the intricacies of his calling, of the behaviour of his ship in various states of weather, and of the lead of his buntlines ; but a steamer-man never seems to have quite the same personal feeling for his craft. Just so far as a steamer can respond to a human touch, in her handling and behaviour when manœuvring to enter a dock, for instance, she kindles something of the interest of a sailing-ship ; but I have never had a heart-to-heart talk on funnel stays or the rigging of an awning or of an accommodation ladder. It is natural that a man should take less pride in a ship which merely carries him about than in one which for her progress demands his skill and valour. The war afforded an example of the difference in feeling. At one stage of the submarine activity it became usual for neutral ships to display painted on bow and quarters their national colours, and amidships their name and port or nation. The steamers used to show huge stripes and gigantic letters ; but often the sailing skipper, especially if his ship were of wood, could not bring himself so to disfigure his vessel and painted his flags and letters as small and as neatly as their purpose allowed. Often he succeeded in producing a decorative effect.

An obvious objection to this contention that more pride is taken in a sailing ship than in a steamer is that, as a matter of fact, sailing ships are often dingy and steamers brilliant in paint. This, however, is a symptom of the times and does not disprove what is maintained. Of course, the owners of large steamship lines take pride in their fleets and know too that passengers like a smart-looking ship. In the great mail and passenger lines the feeling of prosperity and national importance does undoubtedly give officers and men a just pride, but it is less intimate than that which sail evokes. On the other hand, a sense of decay hangs over the sailing ship in these days of her decline which discourages the natural instincts of the sailor. Nowadays it is chiefly amongst those small craft which are less immediately threatened with extinction that the old pride and affection are found, and with them decoration, neatness, and cleanliness, in degrees varying with the national temperament.

The designs of a vessel's paintwork would certainly repay a close study. Such designs are nearly always tasteful, and often show a surprising instinct for the best contrasts and proportions, and also for the means of displaying to advantage the grace of a vessel's lines.

Other designs depend on tradition. Men-of-war used to be painted so as to make their gun ports prominent, and merchantmen often copied them, adding sometimes a row of painted ports to make themselves appear to have two decks carrying guns. This practice of painting false ports exists to-day—one or two instances have been mentioned above—yet the original object of the design has been entirely forgotten, and when merchantmen were again obliged to mount guns people talked as though it were something new and unprecedented instead of an ancient practice which for a few score years had been found unnecessary. In the Red Sea I have seen a vessel painted to look as though she had a quarter-deck as well as a poop, but only the poop was real.

The study is complicated by exceptions and apparent contradictions; but, speaking generally, there is evidence to show that among the Western nations pride in a vessel is made manifest by the neatness of her gear and the cleanliness of her decks, which will be found even when the sides are rusty and sea-stained. In the East, whereas cleanliness goes for little and tidiness for nothing, a coloured hull is highly esteemed.

The finest Maltese vessels are the large Gozo boats that carry passengers and cargo between the two islands (fig. 106). Some are nearly always to be seen at Valletta, either entering or leaving harbour, or lying at the quay laden with a mixed cargo. The skipper cannot read or write, and carries each item in his head. Gozo boats, they have no other name, are about forty feet long and twelve feet in beam. They are not unlike the older *dghaisas,* but of course are much larger. Their stems and sterns are not so high in proportion. Their colours are even more brilliant. One had black at the water line, then a broad yellow band and a green one above it just below the gunwale, and then a wash strake on either side of the open hatch consisting of a dozen or so black panels with green uprights between them. There are often decorative devices at the bows and generally an eye. They have small decks at bow and stern, and at either side of the long open hatch are much cambered waterways which are provided with scuppers half-way between the gunwale and the water-line.

The rig consists of two masts with settee sails, and a rather awkward looking jib shaped like a right-angled triangle, with the right angle at the clew. It has an inhaul bent to the middle of the luff, and I have seen a sagging luff tautened by being pulled aft by the inhaul.

The foremast is stepped a few feet abaft the stem, and the main mast amidships through the main beam. The masts are equal in height. They are supported on each side by a runner and tackle, and abaft it by a shroud set up with a tackle. The yards generally have a little piece forming the after yardarm lashed to the principal spar. They are hoisted with a traveller, a chain tye, and luff purchase. The foresail is always to port, and the mainsail to starboard. They reef at the foot, and there is one row of points in each sail. When the reef is in the sail still has a very short luff. I have been told that the old service whaler rig was suggested by the Gozo boats ; but though there is a superficial resemblance the sail plans differ in important points. The whaler's yards are much shorter in comparison and are much stouter, not bending at all. The sails are not so high in the peak, and both are set to leeward, and dipped when the boat goes about. They are, in fact, lugs, while the Gozo boat's sails, despite their luffs, are lateens.

In October 1918 I made the passage to Migiarro, in Gozo, from Valletta, in one of these boats. My leave was so short, only one night, that had the steamer been available I should have felt obliged to go in her; but I was not sorry on arriving at the quay early one morning to find that the miserable little tin pot was not running. It was blowing fresh at south-east, and there was probably more sea than she cared for. Not far off lay a Gozo boat with yards mastheaded and bowsprit rigged. One of her crew invited me to sail in her, and said she would be leaving almost at once. She had a full cargo and a large crowd of passengers, many of them black-clad country women, some with children. I found a place aft between a woman and a priest. There seemed no room for more, but fresh passengers kept on embarking, and every one who passed used my back as a handrail. At last we began to cast off, and the rudder was shipped. While our stern was still to the quay two last passengers joined, Englishmen on a holiday like myself. They said the presence of an officer had been advanced as a guarantee of the excellence of the boat. We cast off, and a boy shinned aloft to each masthead; as the old verse says:

A boy or tweyn anone up styen
And overthwart the sayle yerde lyen;

only these boys stood on the yards, holding on to the masthead with one hand, and having a tyer in the other. The wind was blowing on to the quay, so we hauled ahead alongside a trawler to get room. Then the master cried what sounded like *Ha trincai*, and the boy at the foremast head let the foresail fall. Then the master cried, *Ha maestro*, and the other boy let fall the mainsail, and we began to gather way. The boat carried a great deal of weather helm till the jib was set. The bowsprit was a makeshift sort of spar crooked and unstayed, lashed to the stem on the starboard side and to the foremast. The jib halyard was belayed to the heel, which stuck out a few inches abaft the foremast. Although part of the ordinary working canvas, the Gozo boat's jib does not seem to belong to her, but to be a temporary expedient. It is remarkable how long it is before any addition to well-known gear or fittings becomes acknowledged. Wireless apparatus is pretty well established, and yet in many ships masts are still finished off with a truck as though no topmasts were present (fig. 111), and the long wireless topmasts have not the permanent look of those intended to carry sail. For the same reason pictures are nearly always old-fashioned for their time.

We made a few short boards to get clear of the shipping at the quays, and then stood down the harbour on the starboard tack. There were some sixty people on board, including the crew of about ten, two of whom were boys. The passengers were good-humoured, and chattered like a shipload of monkeys. We sailed slowly down the harbour, the fortifications and other buildings breaking up the wind which reached us in unsteady puffs; but at last we passed the lee pier-head, put up our helm, and ran before the fresh sirocco. The chattering was suddenly stilled and the women near me were quietly sick. We goose-winged the sails, keeping both abaft the mast, and since in these boats the foresail is set on the port side of the mast, and the mainsail to starboard, it is clear that in this position the peak of the mainsail was to port and the peak of the foresail to starboard. The foresheets were two luff tackles, with the single blocks hooked to an eye in the coaming. In staying or gybing the lee sheet is unhooked, and the clew taken across by hand and held until the other sheet is hooked on. During the passage a small line was bent to the clew to give a better hold when this was being done.

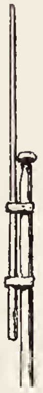

Fig. 111

The main sheet was a single line without any purchase whatever. It was taken to the rudder-head and made fast by two or three turns. A small line was bent to the forward yardarm to serve as a guy or brace.

The wind had raised a steep sea over which we sped at a fine pace.

The fair breeze blew, the white foam flew.

Valletta is near the south-east end of Malta, and Gozo lies about four and a half miles beyond its north-west extremity. Migiarro is at the south-east end of Gozo in the Straits. Between the two larger islands lies Comino. From the Grand Harbour to Migiarro is eighteen miles.

The helmsman sat on a seat on the after-deck, and on either side certain principal seamen, fine men, bronzed and tall. One with an aquiline nose was just what one might fancy a sailor of Phoenicia to have been.

We ran on and the sun gathered strength. With his beams on my back I was glad the swooping motion was no worse. Our course trended away from the coast, so after a time we gybed our mainsail, bringing both sails to starboard, and stood in a little. Then we gybed the foresail and so ran goose-winged again, with both sails before the mast this time—the foresail to port and the mainsail to starboard. We passed the traditional site of St. Paul's shipwreck, a narrow creek between an island and the mainland. He must have had the wind at north-east or thereabouts.

A tin mug with a flat side bearing a pious picture was now passed round, and every one contributed a penny to some church. Such good manners have the Maltese that the mug was not offered to the Englishmen on board, and there was obvious pleasure when they contributed like the rest. The fares also were taken—a shilling each.

As we neared the end of Malta we ran into a short steep sea that made many people sick again. We began to cross the Straits. Our course took us close to Comino, a jagged, jutting shore : so near were we that a stone could have been thrown ashore without effort, and almost in our path half-tide rocks burst the sea into foam, and we skirted by crags that seemed to madden the waves and incite them to violence. We left Comino behind, and the steep cliffs of Gozo lay before us. We approached them rapidly and coasted close beneath them, rolling in the backwash. Then we saw a little breakwater ahead and masts beyond. The mainsail was lowered, furled rapidly, and the yard hoisted out of the way, the jib and bowsprit were taken in ; then down came the foresail and we shot into a crowded little harbour containing many gaily painted boats, and carried our way to a quay thronged with eager folk gathered to see the boat come in. So ended the voyage of the *Giovanna Madre,* two and a quarter hours from pier to pier.

Some small Italian coasters are rigged with two masts of nearly equal height. The foremast carries a lateen, not like a tartan's sail, but a settee and fitted with a fore boom. It reefs at the foot. The mizen-mast has an ordinary gaff-sail. A jib is set on a bowsprit (fig. 112). Varieties of this rig are very common, but the foresail in the other forms has developed into a lug, and they will be described in another chapter.

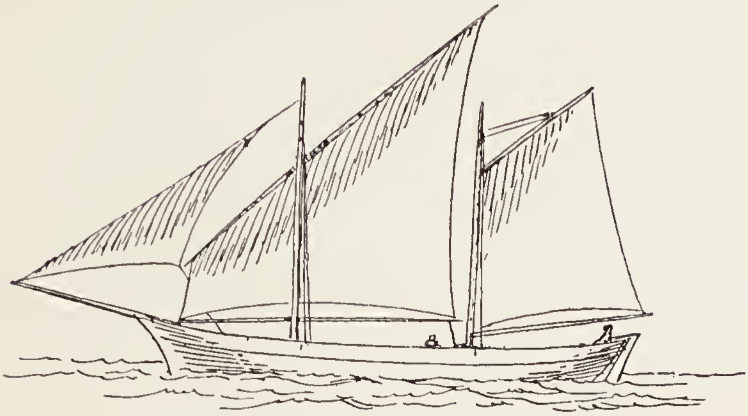

FIG. 112

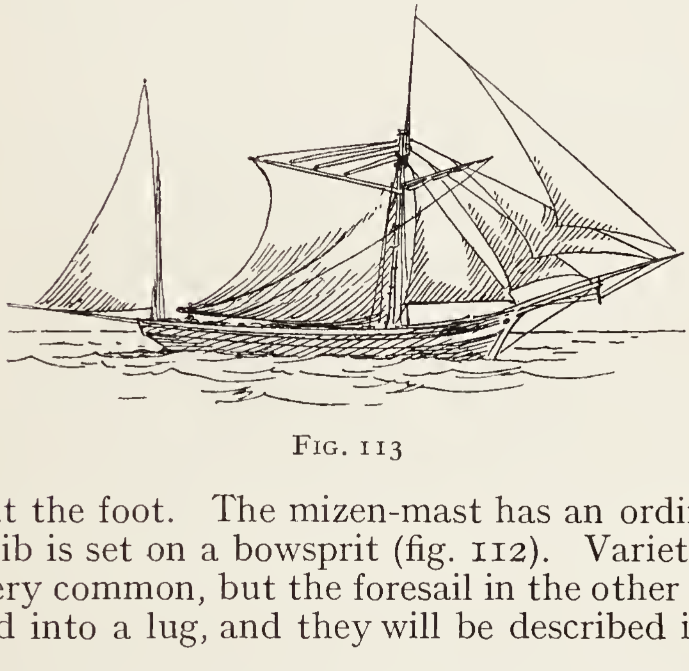

FIG. 113

A rig, also Italian, that is almost the exact reverse of the foregoing, is sometimes seen. In this the foremast, or mainmast carries a gaffsail, and there is a lateen mizen. One that I saw at Malta had a bowsprit and jibboom with fore staysail, fitted with a foot-stick, standing jib, boom jib, and flying jib. She had a mainmast and an ordinary gaff mainsail with a boom and a squaresail. There was a main topmast, and she could set a gaff topsail. So far she hardly differed from an ordinary trading ketch. Her mizen-mast, however, was stepped in the counter and carried a lateen sail. Its foot was spread by a boom which could be topped up, but when in use was clamped rigidly, without power of movement sideways. The yard was kept up and down the mast, and was almost immovable. The sail was, in fact, in the very first stage of evolving from a lateen into a leg-of-mutton sail (fig. 113). In another rig the process has gone farther. It will be examined later. Before turning to other forms into which the lateen has developed it will be best to consider the lateen-rigged craft of Egypt and the Red Sea.

EGYPT

In Egypt the conditions particularly favourable to lateens are found, namely a hot climate and smooth water, and consequently the sails show an almost fantastic development.

In Northern Egypt there are two principal kinds of vessels used for cargo ; one a purely inland type, and the the other stouter and slightly more seaworthy. Craft of this sort venture into the gulf of Suez. I could not discover the names of either, though I was told *markab* was correct for the stouter sort ; but *markab* means ship (and I am told, camel) and is not a particular name. I shall refer to them as the inland [1] and the estuary type respectively.

The inland type is very common. The vessels which vary in length from about twenty-five feet, and even less, to sixty or more, are dingy-looking craft when seen near at hand. They are flimsily built, and I was told that the sides were constructed first and the bottom put on afterwards (fig. 114).

The line of the gunwale is almost without sheer, but right forward the bows rise suddenly to twice the height of the side amidships. This forward raised part is covered with arched planks placed transversely. They are so steep that they can hardly be said to form a deck. Over this structure runs a piece of timber sometimes resting upon it, sometimes arched above it, which projects upwards and forwards beyond the stem which it passes to starboard. From this bumkin hangs a grapnel and chain, exactly as they are shown in medieval pictures, and to it leads the gear which controls the lower end of the foreyard.

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[1] Called I am told *gyassa*, but I have never heard the word used.

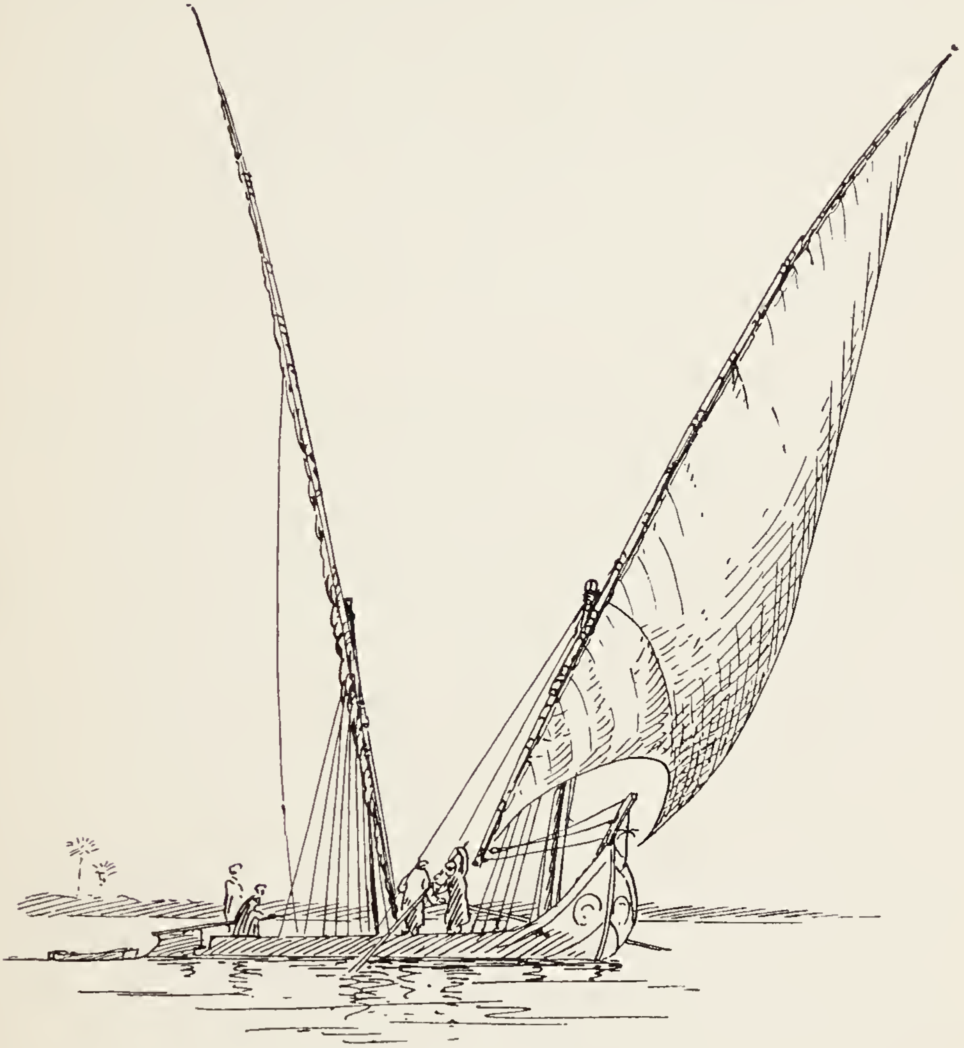
Fig. 114

The bows are very abrupt. The beam is carried far forward and there is hardly any entry. The stem, however, rakes aft a little, and the appearance is not as ugly as its description suggests.

The stern is square. The gunwale does not reach the transom proper, but ends in a kind of false transom set about a foot before the true stern. The real transom forms a kind of step on which there is just room for a man to stand below and abaft the false transom. It is as though hatch coaming and gunwale were coterminous from the arched fore-deck to within a foot of the stern. There is a short deck aft. Two beams cross the open hold.

The rudder is large. Its after edge slopes upwards and forwards from the water, and meets the upper edge at an angle. There is no true rudder head. The upper part of the rudder has a piece of timber lashed on either side, and between the projecting fore ends the tiller is lashed. Wire is often used for this.

The rig varies. The smaller craft have one mast (fig. 115), but most have a foremast and a mizen (fig. 116). The foremast which rakes forward a little is stepped close abaft the steeply sloping fore-deck, and the mizen-mast just before the after-deck. The foresail is a true lateen set on an immensely long yard. A yard of this sort lying by a lock at Ismailia was found by pacing to be some 80 feet in length. Such yards are seldom if ever in one piece. The sail which generally runs on rings on the yard is narrow, with a roached foot and no luff. The leech, when the vessel is sailing by the wind, rakes aft from clew to peak.

The sail differs from the Mediterranean lateens in being set outside the rigging. The yard is permanently slung at the masthead, exactly how I was never able to discover, because the bits of old sacking and other chafing-gear always prevented a clear view. The most important parts of the gear could however be made out. The masthead above the eyes of the rigging is shaped like a half oval with the curved part uppermost. It is pierced by one, or sometimes two, holes bored fore and aft. Through these holes—they are almost too big to be called dumb sheaves—chains are rove from aft forward and by them the yard hangs, close to the masthead. To the after ends of the chains are bent wires which come down to the gunwale with the standing rigging.

Sometimes the yard rests right upon the masthead, and there is puddening to prevent galling, but often it topples over to one side or another. In going about the yard has to be brought up and down the mast, and the sheet taken round before all. I never had an opportunity of watching the manœuvre closely, but close-hauled the sail is always to leeward, unlike the Mediterranean lateen, which as we have seen is to windward of the mast on one tack and to leeward on the other.

Sometimes in running the sail is set abaft the mast, and sometimes, instead, the fore or lower yardarm is brought close to the mast so that the yard is almost upright, and the sheet eased.

The sails are not reefed. Sometimes, but not usually, there is a brail coming to the foot. Vangs are not used. The standing rigging is of wire, and generally has an untidy and makeshift look.

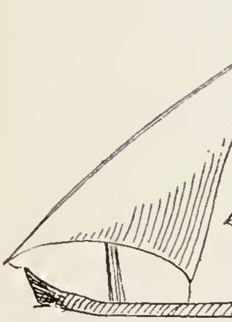
FIG. 115

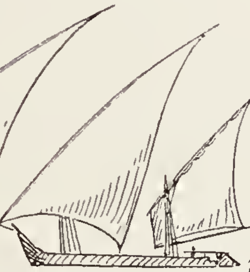
FIG. 116

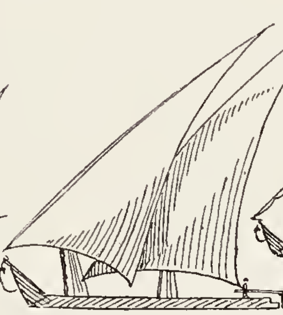
FIG. 117

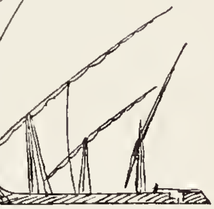
FIG. 118

When the sail does not run on rings but is bent to the yard a man has to go aloft to furl it. For this purpose blocks of wood to serve as steps are sometimes nailed to the after side of the mast, and sometimes a rope is hitched round it instead with turns at short intervals to give a foothold. When a sail is unbent it is made up into a bundle and hung half-way up the mast. One of the masts nearly always has a bundle of some kind hanging to it.

The mizen is usually of a different cut. It generally has a luff and the yard is hung inside the rigging, and the foot is spread by a boom. It is almost a balance lug. When the sail is not set the yard is topped up, and the peak outhaul let go. The boom is unshipped and topped up before the mast. It is sometimes difficult to distinguish which is which at first sight. I have seen a mizen, shaped more like the foresail, without a luff and boomless, sheeted to the rudder.

These vessels sail better than might be expected, though they are almost flat-bottomed, and appear to have but little hold of the water. Sometimes they tow when the wind is foul, and in the Suez Canal I have seen eleven men on the tow rope, some in long robes and some in very short raiment, all straining forward and pulling their weight. Some of their practices seem strange, running with only a mizen set for instance, or even two vessels will be seen lashed together running under the mizen of one of them.

A few, instead of a foresail and mizen, have a foresail and mainsail (fig. 117). The mainmast is almost of the same height as the foremast and is stepped amidships. The mainsail is wider in proportion than the foresail, and is larger altogether. The mainyard nearly always rests upon the masthead, and the lower yardarm bears against the foremast low down. A very few have fore, main, and mizen-masts.

Some have between the fore and mizen-masts a little mast much smaller than either, with a yard and sail (fig. 118). I never saw one of these little midship sails set, but suppose them to be used for shifting berth when it is not wished to be at the trouble of loosing the others.

Dingy, ramshackle, and flimsy as these craft are, with hardly any ornament save circular devices on their bows that give them a staring look, they are nevertheless beautiful under sail, especially when many are seen together. Their canvas is so light and catches so gentle an air that they always seem alive, and they harmonize with the landscape in the wonderful way that local craft and buildings and animals do. The pelican and the flamingo do not look more part of their surroundings than they, though the birds were there long before the ships. For these are not the vessels of ancient Egypt. The pictures, sculptures, and models of the old time resemble them not at all, neither in hull, which was tapered and graceful, nor in rig, which was square. Of their probable origin less is known than of almost anything else in Egypt. I wonder how many Egyptologists have given them a second thought.

The well-known *dahabeeahs*, of which the low bow and lofty after cabin is familiar, I have never seen under sail. They carry a foresail and a mizen.

The estuary type is of stouter scantling and more usual build than the inland craft. The vessels have a better sheer and entry, and though they have a good rise forward it is not so extraordinarily abrupt. They are more completely decked, and the bulwarks aft are raised above the line of the gunwale. They have transom sterns. They are larger than the inland craft (fig. 119).

Their sails are of the same cut, but they nearly always have three masts. Their gear, because they are longer, is rather more complicated but does not differ much from that of the inland craft. The main shrouds, and sometimes to a less degree the fore shrouds, are before the mast to help sustain the weight of the long yards. The tackle controlling the lower fore yardarm comes to the forecastle direct instead of to a bumkin, and I have seen a vang fitted to the fore and mainyard. The length of the mainyard is almost past belief, but I have never seen the mainsail set, and should have come to the conclusion that it never was set, had I not seen it in a photograph, and were it not that the sail is always bent ready for setting. Perhaps it is used only in very light airs on the Nile to stem the current.

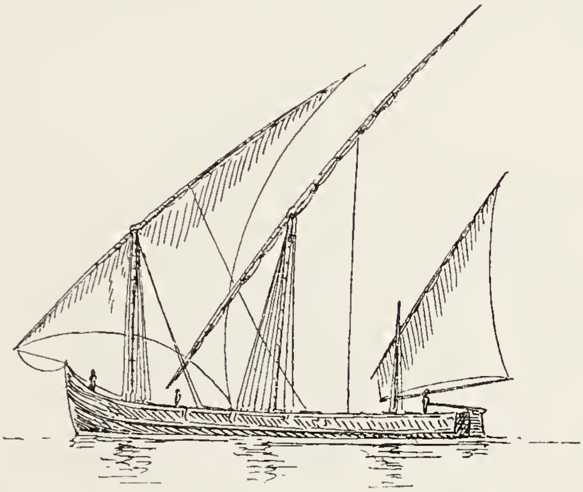

FIG. 119

This three-masted lateener used to be displayed,[1] somewhat idealized, in a well-known steamship advertisement. The scene was supposed to be Suez, and the artist showed the mainsail set, but my experience is that this kind of vessel as soon as she gets into waters the least exposed keeps her sails stowed and relies on a tug.

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[1] Before the war.

I have seen one of these vessels without a mizen. She was in the Suez Canal, and was under foresail and a small triangular main trysail, but any variation in the rig is most unusual.

The well-known *nugger*, with her curious tilted sail that is neither lug nor lateen, belongs to Upper Egypt. I have never seen her, but a more fortunate eyewitness tells me that the type was still vigorous in 1919, and, moreover, that the boats sailed very well.

THE RED SEA [1]

When the traveller comes out of the Canal into the Gulf of Suez he will notice amongst the steamers a number of small craft. He will observe the long yards of the vessels from the inland waters of Egypt, and fishing-boats like those of Port Said, but presently he will see boats of a quite different sort, evidently a product of another tradition and environment. If he is familiar only with vessels of the present day he will at first not know how to look at them, but gradually he will come to see that what is unfamiliar is the great rake of the stem, and the fact that the stern is higher than the bows.

If, on the other hand, the observer is familiar with representations of vessels of the sixteenth and seventeenth centuries he will recognize them instantly, will appreciate the meaning and intention of their design, and if he tries to draw one will inevitably find that he has exaggerated those features upon which their characteristic appearance depends.

These boats are not existing examples of any particular European vessel of the sixteenth century, but that is the period to which they seem to belong. It is not easy exactly to describe why they look so different, but some impression is given by saying that whereas the lines of modern vessels seem to sweep aft from their bows, these boats seem to be designed for a stern view, and their lines lead the eye from the established dignity of the after part to the nosing adventurous prow.

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[1] This section appeared in the *Mariner's Mirror* for March, April, and May 1920.

These Suez boats, which bring supplies from the shore and are used for odd jobs generally, are not trim or clean, but they are worth examining because, though they show signs of degeneration, they are built in the same way as the more important vessels of the Red Sea, and coming as they do close alongside the ship, a thoroughly good view of their design and structure can be obtained (fig. 120).

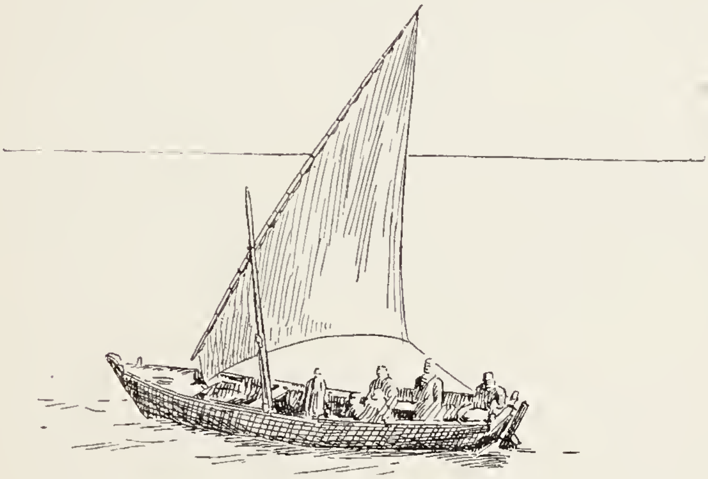

FIG. 120

Their more important features are a stern with a raking transom, a little higher than the stem. The greatest breadth is about amidships and is carried farther aft than forward.

There is a small deck forward and a rather larger one aft, and on this deck right aft is sometimes a kind of step like a very short poop. Between the decks the open hold, which is ceiled, is crossed by three beams strengthened by stout knees. A bulwark reaches from the foremost knee of the after beam to the stern, and three or four timber heads stand in the after part of the gunwale.

The mast is stepped almost in the mid line of the keel, in a piece of timber like a very short keelson. The mast has a great forward rake and leans against the after side of the main beam to which it is lashed. The sail is a lateen with a not very lofty peak. The yard is hoisted on the starboard side by a tye and halyard, and kept to the mast by a truss fitted as follows. A long eye splice is made round the yard and a seizing is put on each side, leaving a little loop abaft the yard. The end of the line is then taken forward round the mast and led over the yard and down through the loop. The sail has a luff and the tack—this is a peculiarity of the Suez-boat—comes a long way abaft the stem. The sheet is made fast to a timber head on the starboard quarter. On the starboard tack the sail is divided by the mast into two very distinct parts. Sometimes there is a couple of shrouds on either side and then the sail is set inside the rigging. There is a peak outhaul. Some of the sails reef at the foot.

In their standing rigging, their peak outhaul, and their reef these boats differ from most Red Sea vessels, and they show other signs of European influence. It is in their hulls that their chief interest lies.

The craft of the Red Sea and Gulf of Aden fall into two main divisions, those with square sterns and those with pointed sterns (figs. 122 and 134), and though there are many small differences and a variety of names which are not at all easy to apply correctly, the shape of the stern is the most important distinguishing feature. In rig the difference is equally simple. Some vessels have one mast and some two.

In 1918 Lt.-Col. C. H. F. Jacob, C.S.I., took passage in our ship, and on my telling him that I was interested in Arab craft, he there and then very kindly presented me with two pictures, a number of rude diagrams, and a description of native vessels done for him by an Arab. The following translation made[1] by Col. Jacob shows the difficulties that beset the inquirer.

> *Sambuk* is known by its stern (rump).
>
> *Ghanja* is known by its prow which is curved, and on it are four horns.
>
> *Ballam,* which comes from Shukra (60 miles East of Aden). It is

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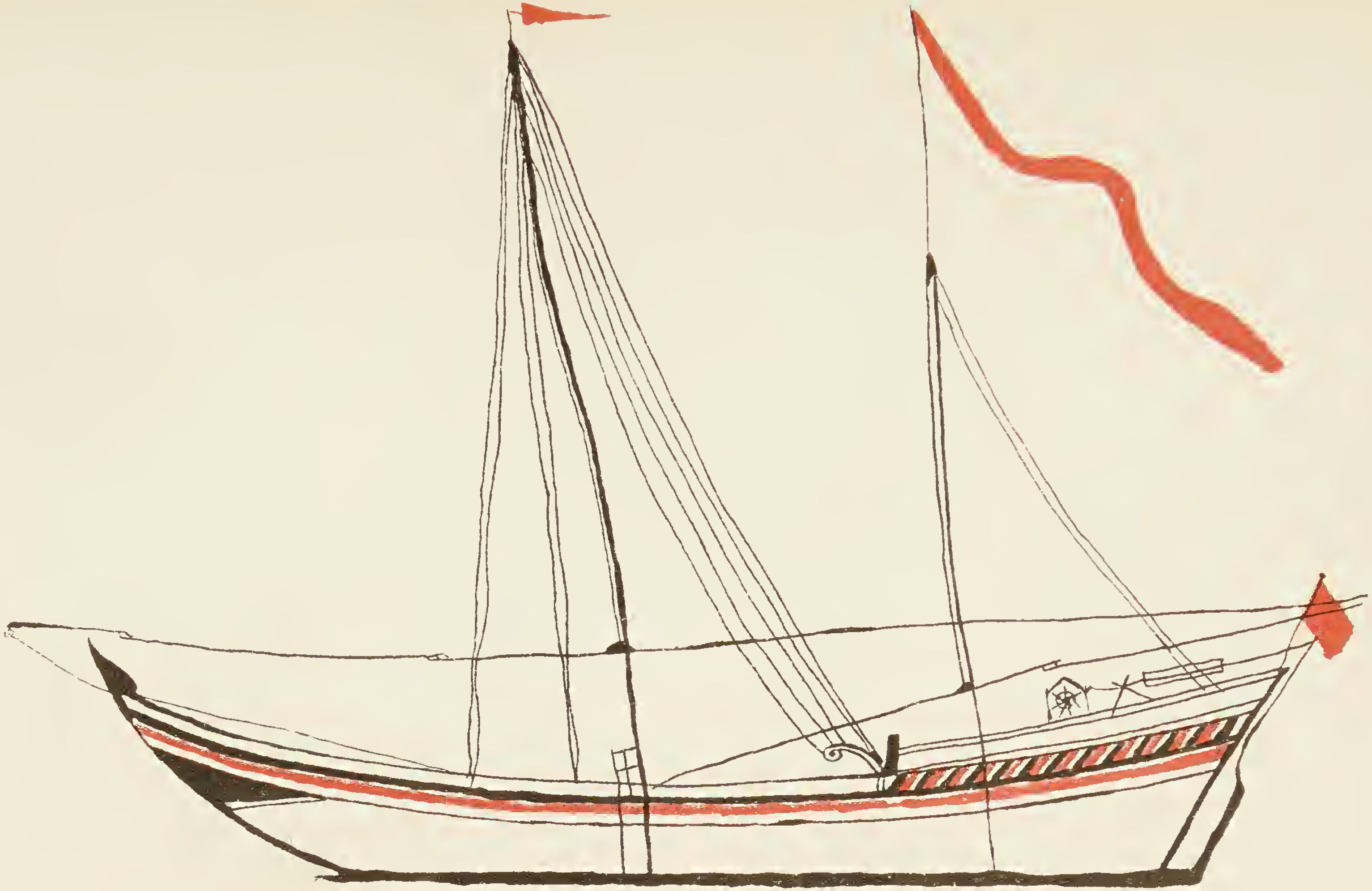
[1] Professor E. G. Browne of Pembroke College, Cambridge, very kindly went through the document and supplied the meanings of one or two words that remained doubtful.



II. SAMBUK

distinguished by having its prow and stern the same, and the rudder is drawn. (Some Red Sea craft are steered by lines to the rudder direct.)

Baghla (mule) is marked by its long prow, while its rudder is below the stern as in ships.

Bum (pron. boom) (owl). Its characteristic is a large stern and small prow.

Badan (body). Its prow is like a warship's, long, while its stern is like a man standing upright.

Zaruk. Its stern and prow are the same.

Jalba of Hodeida. Its prow is upright.

Zaima of Hodeida. Its prow is long, that is, protracted, and its stern slopes backwards.

Howa, belonging to fishermen.

Ramasth, a raft.

Boat, a *bander* boat (shore boat).

Jal, a boat, something like a *bander* boat.

Karib, smaller than the *bander* boat.

Ibri, whose prow *mozunkim* (?) downwards and its stern is elevated.

Kutia, its prow narrow (literally collected) while its stern is large and its rudder fixed below.

Baghla. The people of Sur call the *Baghla Khasaba* (= wood).

Felouka is found in Port Sudan and is like the *bander* boat.

Saiyeh is known by its stern.

The two pictures are very good, done in black ink and picked out with red. One represents a *ghanja,* and shows a vessel with an uncurved raking stem, ending in a circular device on which are what appear to be horns. She has an overhanging stern, and under the counter hangs a boat. She has a steering-wheel. There are three masts, main, mizen, and jigger, or more fittingly in such a craft, bonaventure. Right aft is a flag-staff, with a narrow red flag. The yards are lowered. I never saw anything like her (Plate I).

The other picture represents a *sambuk,* and is very much like one (Plate II). She is shown with too tall a mizen-mast, from which an immense red streamer flies, but that is presumably put in for artistic effect. The yards are lowered and indicated rather than drawn, but the separate pieces which make them up are clearly shown. The running rigging is not represented in detail. A wheel is shown.

The *Sambuk,* or *Saiyeh,* another name for the same craft, meaning swift, is the ordinary Red Sea trader met in every port (figs. 121, 122, and 123).

The diagrams are in pencil and very roughly drawn. To one intimately acquainted with the vessels they are supposed to represent they would probably be intelligible, the *Sambuks* are quite recognizable, but they are puzzling to the ignorant inquirer.

A *ghanja* is shown with two masts and a stern quite different from that of the picture. The stem, however, is surmounted by a round thing with four spikes, against which is written ‘ horns ’. The stern is vertical. The steering-gear is obscure.

There are two diagrams of *Sambuks*. One of Basra has an upright stern and a wide rudder. The other has a raked stern and a narrow rudder. Both have two masts.

A *baghla* is shown with three masts like the *Ghanja* in the picture. Her tiller leads diagonally upwards and forwards, continuing the upper edge of the wide rudder, coming into the stern and not over it and ends, as do many tillers in the diagrams, in a thing like a sunflower to which attention is directed by the words ‘ belonging to tiller ’. The sunflower may be an ornament, or may be intended to represent a wheel.

There are two representations of *Zaruks*, both with raking sterns and both steering with a tiller. Both have very short mizen-masts. One, which has a boat on board just abaft the mainmast, is described as *Zaruk* belonging to Sheikh Mahomed Ali Uthman. Both these *Zaruks* are shown with lower sterns than the foregoing vessels.

A *Zaima* is twice represented, once with a raised and ornamented stern like the other vessels, and once much smaller with a high bow and a low stern. In both diagrams there is only one mast. Astern of the large *Zaima* is a boat with raking stem, and stern-post, and a notch in her rudder with *bot* written above.

A *bum* ‘ belonging to al Kashush ’ is shown with a high upright stern, and a stem less raked than in the other craft. She has two masts.

A smaller diagram represents a *Badan* with a long schooner bow and a narrow rudder projecting far above the high stern. She has two masts. Another shows a *ballam* with a long raking stem and a stern less raked, and a line to the after edge of her rudder. She has one mast.

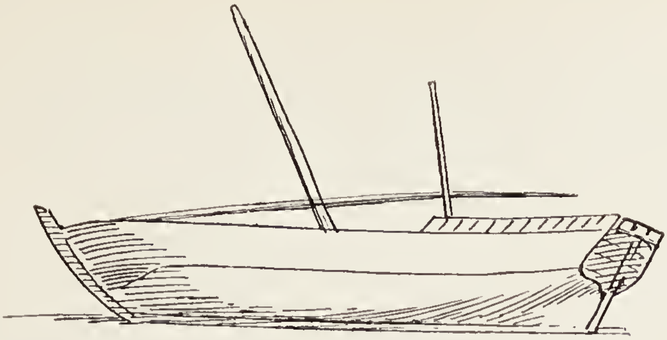


FIG. 121

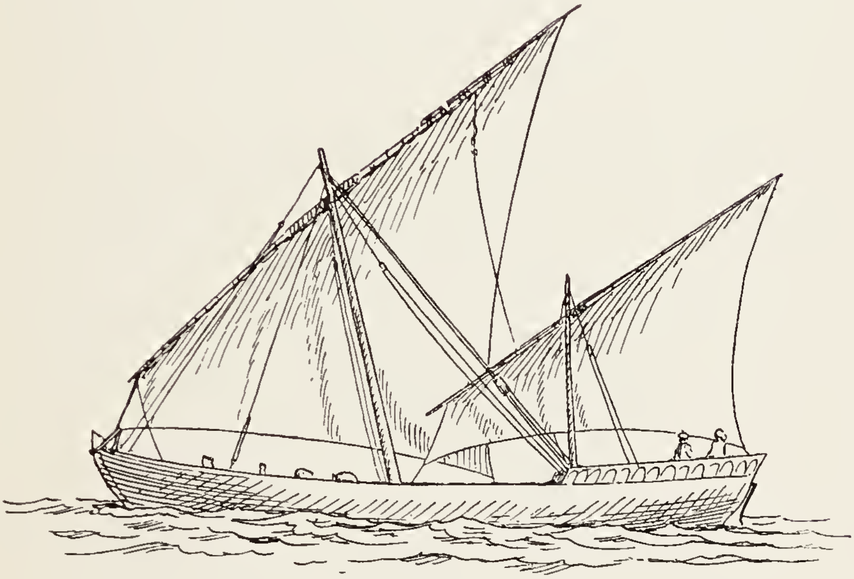


FIG. 122

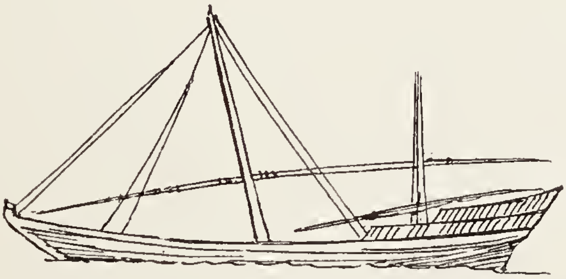


FIG. 123

Lastly, save for some unnamed small boats, there is a *Jalba* with a curved stem something like a *sambuk's*, but overhanging less, and a high raking stern. She has a very much notched rudder and one mast.

Sambuks vary in size. Some I was told carry eighty tons of cargo, many certainly could not take half that amount.

Some are gaily painted in many colours, others have a simple but striking design, and yet others are dingy.

At the little town of Yambo on the eastern shore of the Red Sea I saw a craft—probably a *sambuk*—that matched the people of a place where the narrow streets are crowded by an armed multitude amongst which you may see one minute a half-savage looking individual with axe and sword, and the next a dignified Arab with a long staff and a silver-hilted sword, and sometimes a black slave walking behind.

The vessel, which was two-masted, had a high stern not much raked and the usual curved and raking stem. She was white at the water-line, and at each bow had a green triangle with a red one within it, the apex aft, and the base at the stem. Above the white and the triangles was a band of black, and above the black a belt of white on which were painted ports, and before the foremost port the white belt gave place to a patch of green.

Above the white and green was another band of black, narrower than that below the painted ports. Then came a zone of yellow, and the gunwale and stem-head were black. The raised stern had a more elaborate design.

Sometimes the hull is painted a reddish-brown with a white boot topping, the upper edge of which rises near the bow and then falls towards the stem. This sets off the bow to great advantage.

I had seen several *sambuks*, and had become familiar with most of their details, when one day our ship put into Port Sudan. I called on the Government Medical Officer, Mr. N. E. Waterfield, and we were soon talking about the Red Sea craft. By good fortune there was a *sambuk* owner in hospital, a Sudanese called Mohamed Kleby, and to him we went. He proved to be a most intelligent man, and readily understood the diagrams I made. He told me in his own language the name of nearly every timber, spar,

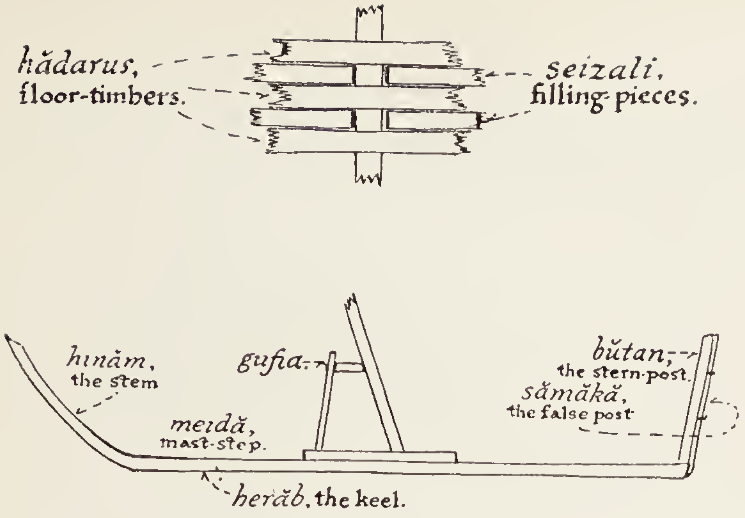


FIG. 124

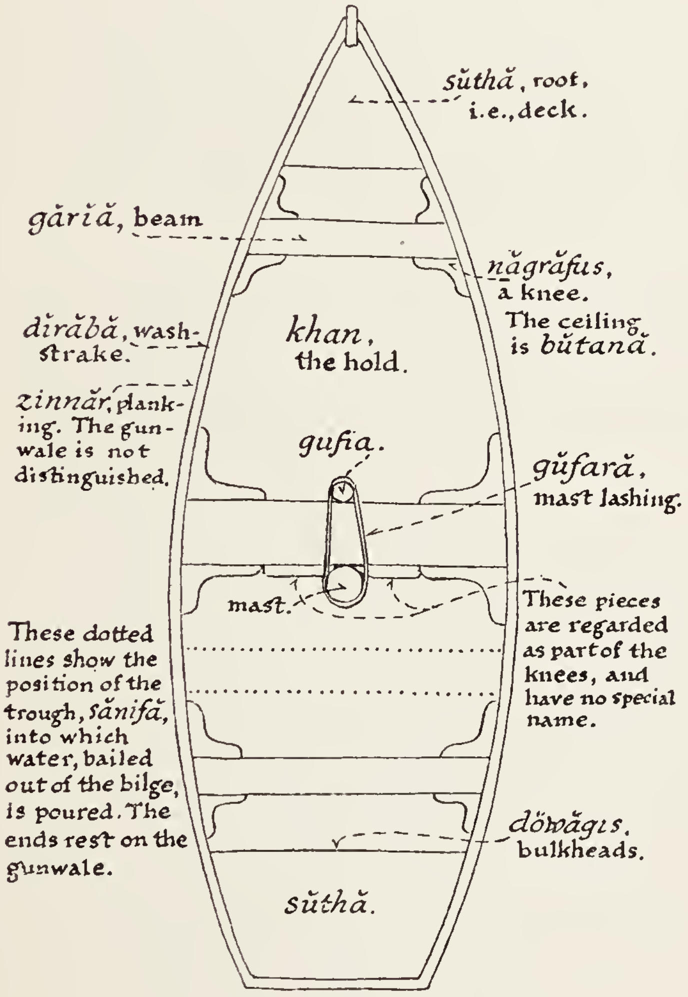


FIG. 125

and detail of sails and rigging. My host interpreted and advised as to transliteration. The names are given in the accompanying diagrams (figs. 124, 125, 126). They are in the main self explanatory, but some points may repay attention.

Fig. 124 shows how the mast is stepped in a very short keelson, *meidă,* and leans against the main beam. On the forward side of the beam is a small spar, *gufia,* the head of which comes a little way above the beam. A stout lashing passes round the beam, *gufia,* and mast, and above the beam a lashing of smaller stuff is passed round the mast and the head of the *gufia.*

The words for pintle and gudgeon mean male and female.

The timbers are sometimes very rough and irregular. I examined an old craft lying on the shore, and her build and her timbers unevenly spaced and varying in size, and in the number of separate pieces which made them up, together with the absence of any true keelson, but the rude block which served as a mast step, made me feel that I had wandered into another age.

In (fig. 126) a bollard, *guraa,* is shown right forward. There is also a kind of stout cross-piece projecting on either bow with a score in the ends. Sometimes the bollard is stepped in this. When I was questioning the Sudanese I had not noticed it, and so did not learn its name. Probably it is called *guraa.* It is always, or nearly always, present in a *sambuk.* The tack passes round it, and the anchor cable runs over it instead of through a hawse-hole. It is likely, therefore, that my informant would have told me had it a different name.

As a rule, though the stern is high there is no raised poop. A deck is laid upon the beams aft, and there are high bulwarks, but were the deck continued forward over the open hold, the vessel would be flush decked. There is, however, the appearance of a poop, and sometimes the deck is raised. One day at Jiddah I saw a *sambuk* with quarter-deck and poop. She was some distance off, but I examined her carefully through a glass (fig. 123). Afterwards at Port Sudan, I saw a craft that appeared to have a quarter-deck, from the way she was painted. An inquiry of the Sudanese

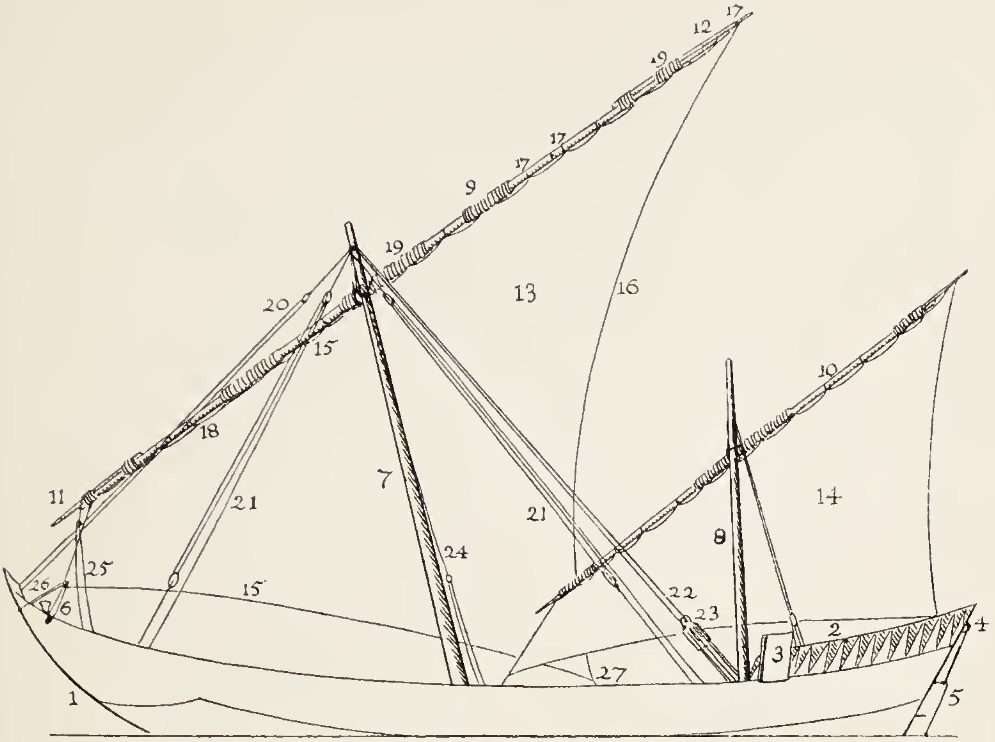


FIG. 126

Explanation of figure: 1. *Sĭdr,* chest, the stem or bows, the prow. 2. *Shītŭ,* the poop. 3. *Zoli,* the round house; generally on the port side. 4. *Kană,* the tiller. 5. *Săkwan,* the rudder. 6. *Guraa,* a bollard. 7. *Dŭgl,* the (main) mast. 8. *Dŭgl galami,* the mizen-mast. 9. *Tărămăn,* the (main) yard. 10. *Tărămăn gălămi,* the mizen yard. 11. *Joindă,* the piece lashed at the fore yardarm. 12. *Năbashă,* also called *joindă,* the piece lashed at the after yardarm. 13. *Shira,* the (main) sail. 14. *Shira gălămi,* the mizen. 15. *Dŭfin,* the head and foot of the sail. The canvas is turned back, forming a false tabling, and in the fold is a rope. *Dŭfin* seems to mean the whole assemblage. 16. *Gusub,* the leech, fitted in the same way as the head and foot. 17. *Găblus,* plural, *găbălis,* robands. The peak lashing is not distinguished, and is also called *găblus.* 18. *Dasi,* a rope stitched to the *dŭfin* (15), leaving bights by which the sail is bent to the yard by means of the *găbălis* (17). 19. *Gŭfară,* the woolding that holds together the parts of the yard. The same word is used for the lashing by which the mast is secured to the main beam and the *gufia.* See fig. 125. 20. *Bărăndăh,* a light shifting forestay. 21. *Aiyer,* tackles to support the mast. 22. *Răwagăh,* the tye and halyards, called *gīrarī* in small craft. In the figure they lead a little too far aft. 23. The Ram's head. I could learn no special name for it. *Gufră* is a block. 24. *Shīrt,* a truss. 25. *Hămrŏwī,* a whip controlling the fore yardarm, corresponding with the old 'mizen bowline'. 26. *Djosh,* the tack. 27. *Diman,* the sheet.

The following are not shown in the figure: *Barra,* the single tyer or furling line. *Dakr,* pintle. *Nakhisa,* gudgeon. *Mada,* a cable. *Baroussi,* an anchor. *Houri,* the dug-out canoe that serves as a boat. There is no name for the painter beyond *habl,* a rope.

confirmed the existence of two decks aft, and he said that sometimes there was a third—a poop royal in fact. All are called *shĭtŭ*.

There is no true standing rigging, but tackles, *aiyer*, with long pendants are used. There is generally one to each bow and one on each side led aft. The lower blocks have long pendants as well as the upper. Sometimes there is a light tackle which serves as a forestay, *bărăndăh*.

The main yard is not quite so long as the ship, and is never in one piece. I have seen a yard that apparently was composed of six parts. The little pieces that form the yardarms have separate names. That at the fore end to which the *hămrŏwĭ* or guy is made fast is called the *joindă*, and that at the peak *năbashă*, but *joindă* is sometimes used for both.

The woolding that keeps the separate pieces together is *gŭfară*, which seems to mean simply lashing as it is used also for the rope that secures the mast to the main beam.

The yard is hoisted with a tye and halyards like those of a tartan (fig. 127). There seems to be only one name for tye and halyards, *răwagăh*, or in small sambuks, *gĭrarĭ*, the word used to describe the steering-gear of a *ballam*. The tye, which has no free ends, is made fast to the yard bale-sling fashion, and both parts are rove through sheave holes at the masthead, and meet in the hole or dumb sheave of the halyard block. Whether the hole is always bored in the same direction as the halyard sheaves I cannot say, but it certainly is sometimes, whereas in a tartan the dumb sheave is at right angles to the others. This block is exactly the old ramshead of the sixteenth and seventeenth centuries, and probably of an earlier time still. I could not discover that it had any special name. *Gufră* is a block. There were sometimes three halyard sheaves. I could never get a glimpse of the lower halyard block. It was always hidden by something whenever I looked.

The yard is kept to the mast by a truss, *shirt*. A truss tackle is fitted in the larger craft. Some have a truss-parral of peculiar design (fig. 128). In the bight of a long eye splice is a disk about as big as the blade of a tennis racket, and very much the same shape. It has a score in its edge to take the rope. When the yard is down it lies close to the tyes. The two parts of the eye splice then pass before the tyes, and then through holes, one above and one below, in four trucks, or more properly ribs, shaped like slightly-waisted ovals with flat sides. These, when the sail is lowered, rest against the after side of the mast. The parts then lead forward, and are seized together before passing through two holes in the disk. They then meet at the splice, and the end comes to a purchase.

The yards are carried more nearly horizontal than those of most Mediterranean craft.

The sail is bent to the yard in the following way.[1] A rope is sewn in the head of the sail, which is turned over to form a false tabling. The word *dŭfin* is used for the head and foot of the sail with the rope. The leech, which also has a rope, is called *gusub*. To the *dŭfin* is stitched at intervals a bolt rope called *dasi*. By means of the bights so formed the sail is bent to the yard by the robands *găbălis*. The peak lashing is called *găblus* (singular of *găbălis*), and is not distinguished from the robands.

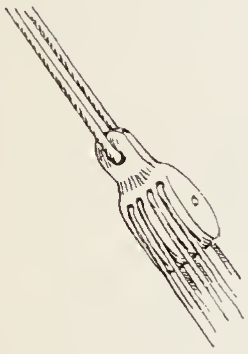


Fig. 127

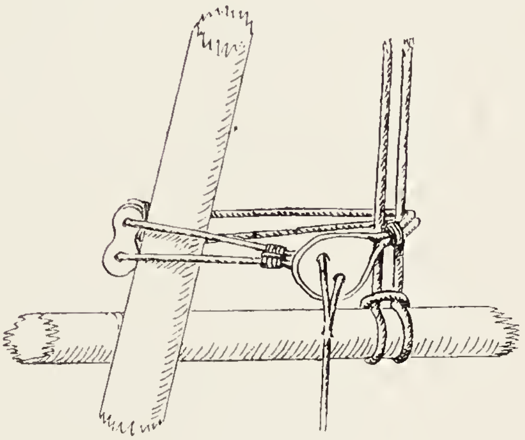


Fig. 128

The tack, *djosh*, is not always led the same way. In a large *sambuk* that passed us at Suez it seemed to be led beneath the bumkin, as from its function one might call the cross-piece at the bows, then up through the tack cringle, then round the stem, then apparently through the cringle again, and again round the stem, through the cringle again and down to the bumkin on the other side. This *sambuk* had a vang to her mainyard, but it was the only one I saw in the Red Sea (fig. 122).

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[1] I was never near enough to a *sambuk* with her sail set to verify these details.

I have seen bent to the tack a line which was led aft and kept the luff taut. Sometimes there are two tacks. Reefs appear not to be used ; nor as a rule are the sails furled, but are unbent as soon as the anchor is let go. A sail is usually placed over a framework on the poop to serve as an awning.

Red Sea craft generally wear instead of tacking, but I have seen one stay in the entrance of the harbour at Massawa. As in wearing, the sail is carried round before the mast. The forward rake of the mast enables the yard to hang vertically, clear of the masthead, while the clew is taken forward and the tack aft. A *sambuk's* anchor is usually a grapnel, and her cable a rope.

For boat she has a narrow dug-out canoe called a *houri*. There is no special name for the painter beyond *ḥabl*, a rope.

None of the Red Sea craft that I saw were decked save at the bow and stern. The cargo is protected by waist-cloths of matting or other material.

During the war thirteen *sambuks* were chartered to carry millet from Port Sudan to Suez. They met with persistent head winds, and the fastest passage took three months ; but all arrived safely except one, which got into difficulties and had to be assisted into port.

The word ' dhow ' is not used in the Red Sea except by Europeans. I made many inquiries, and came to the conclusion from the vague and contradictory answers that it had no definite local meaning.

Mr. Waterfield wrote :

> ' I have been making inquiries about the word *dhow* from my friends, and the most enlightened of them tells me that it is a form of Sambuk now extinct except for one at Yanbo, and that the special thing about them is they have a sort of figure head, i. e. a post sticking up in front with a round knob on it, and also that instead of having this sort of outline for the prow (a diagram showing a raked stem) they are more like this (a diagram showing an almost upright stem), and are not so well adapted to riding the waves. The fellow who told me is so intelligent and well informed that I think his information can be relied on. Port Sudan, Mar. 14, 1918.'

A few weeks later, however, I received another letter :

'A little further information for you. I have seen a Dhow ; the essential difference is, that it has a pointed stern instead of a square one. There did not appear to me much difference in the lines of the bow. There was a sort of knot on the post in the bows, but I don't think that was anything. Dhow in the Yemen I am told is called Zaruk.[1] I also saw a very small *sambuk* which they told me was called a *gatira*, also a thing like a floating coffin, the shape of the ships sold by toy sellers, about 20–25 ft. long. They told me this is called a Zaeima.[2] Port Sudan, Apr. 9, 1918.'

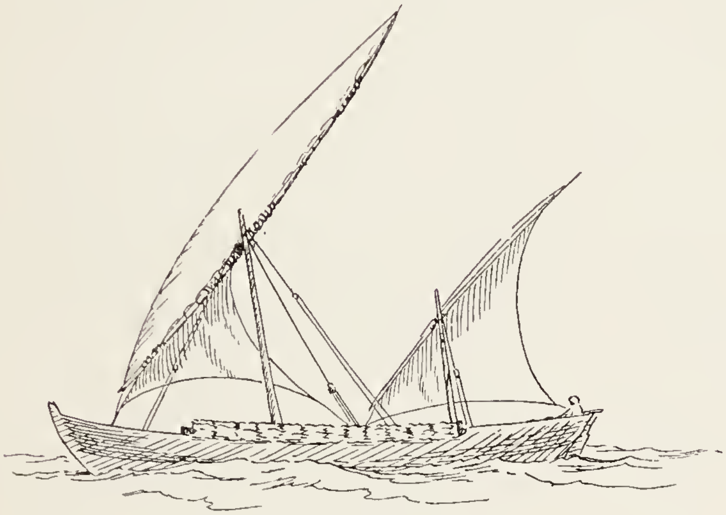

FIG. 129

These varying replies seem to show that Mr. Waterfield's informants were less describing what they knew, than supplying what they thought would be welcome.

Gatira is a word one often hears, and seems to stand for a craft like a *sambuk*, but small.

At Yambo a kind of *sambuk*, probably not so called, is used for fishing (fig. 129). These vessels are lower in the water than those which carry cargo, and their sterns are not so high, and their waist-cloths of matting are in consequence more prominent in a side view. Their yards are literally 'lash ups', and the several pieces on which the knots stick out are often far from straight. They have the usual tackles to support the mast, including the light shifting forestay. The pendants of the tackles are alternately white and some dark colour, but otherwise there is little ornamentation.

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[1] See p. 124.

[2] See p. 124, *Zaima*.

At Jiddah the boats which came out to ships unable to approach the town because of the coral reefs have the tye rove from forward aft and the halyard before the mast instead of abaft it as in all other Red Sea craft I have seen (fig. 130). They bring the tack to a ring-bolt close abaft the stem, instead of some way from it as do the Suez boats which they somewhat resemble. They keep the yard aloft, and to furl the sail bring the clew forward till the leech is close to the yard. A man lying on the yard with his feet on the masthead can reach just far enough to make a sufficiently neat stow. The yard is generally to starboard. They have no standing rigging.

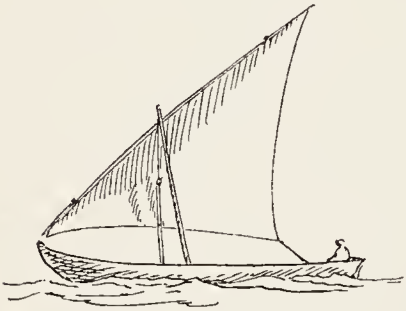

Fig. 130

Beside the *houri* which serves as a ship's boat for the larger craft, dug-out canoes are very much used all down both sides of the Red Sea. They vary in size. Some are very small, and all are narrow. At each end a bit is left solid and a hole for a painter is bored forward. Some have widely-spaced sham timbers carved in relief inside, and sometimes there is a wash strake. They all seem to leak. They are sailed, and sometimes carry more canvas than appears possible. The sail is a lateen. The halyard leads aft, and the tack and sheet are often continuous. I have even seen one with two masts at Jiddah. Generally they steer with a paddle, which has a blade, usually circular, but sometimes like a vertical section through a cottage loaf. The blade is nailed to the shaft which in paddling is aft. Sometimes they steer with a rudder by means of lines made fast to its after edge. I have seen one at Aden with a tiller.

On landing at Jiddah, as you go up from the quay you pass on your left a wall, and on this wall are many rude drawings of ships. Drawing ships seems to be a favourite amusement of the small boys of Jiddah. Perhaps their religion forbids the representation of men and animals. In these *graffiti* the high stern is greatly exaggerated, and they are just what a sixteenth-century hand might have drawn.

Some one had tried to draw a steamer, and had made her like a *sambuk*, with raking stem and high stern.

At Aden are craft built like *sambuks*, but rather smaller than usual. They are graceful vessels with a single mast. Instead of a ' ramshead ' they have a halyard block of more ordinary pattern. The bight of the double tye serves as a strop, and the parts are seized loosely together close above the block. The tack is led over the weather bow round the stem, and then makes fast to a bollard to windward. They are handled with great skill, and it is a wonderful sight to watch them sailing in a hard wind, luffing into the worst puffs up to the very edge of safety. A man stands by ready to let go the halyard if the breeze is fresh. They wear instead of tacking and lose astonishingly little ground (fig. 131 shows one of these craft wearing).

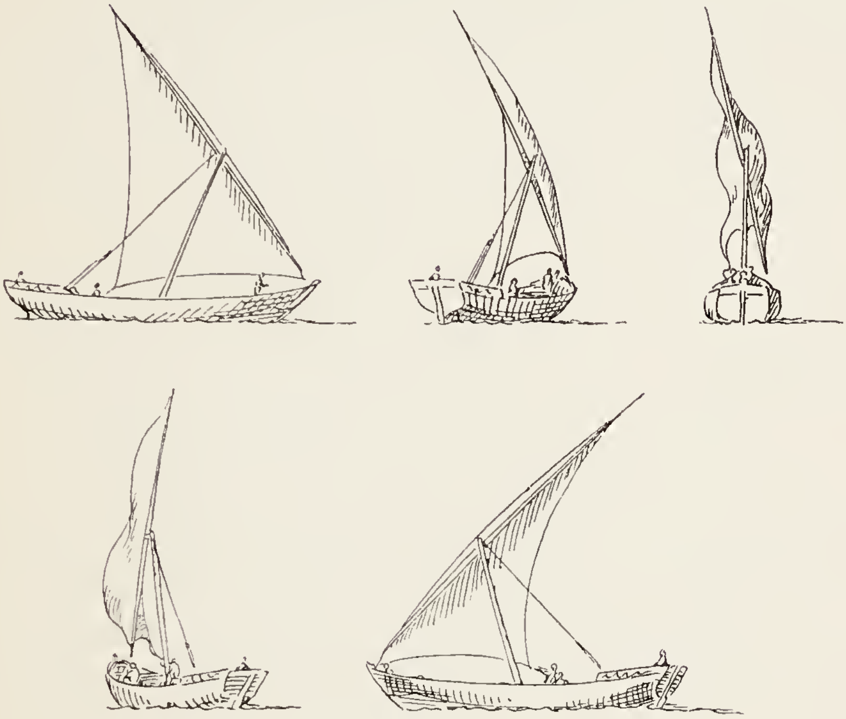

Fig. 131

There is also a sharp-sterned type at Aden, rather smaller than that just described. The stem and stern-post rake much, and the thin rudder-head curves away from the stern-post and back again like the handle of a tea cup.

The tiller is stuck in it at an angle of about forty with the horizontal (fig. 132).

Further than Aden our ship did not go but returned to the Red Sea, and after a visit to the horrible parched island of Perim, came to Massawa, in the Italian colony of Eretria. There were numbers of native craft, forty sail at least. They varied much in size. Some were perhaps fifty feet long, and some half as much. Yet small as they were they were ships in which men lived, and not mere boats. Even in the smallest the crew lived on the poop under a sail, and cooked their food at an open fire. So small were some that the ends of the *houri* hauled on board stuck out several feet beyond the gunwale. In medieval pictures, ships often appear fantastically small in comparison with the people on board, but perhaps the representations are not so incorrect as they seem to be. Another thing often seen in old pictures is a boat shaped like a little ship, and it is easy to say that this was due to ignorance; but at Yanbo I saw a boat about nine feet long with a *sambuk's* raking stem, and a gunwale in two steps aft, as though she had a quarter-deck and poop (fig. 133).

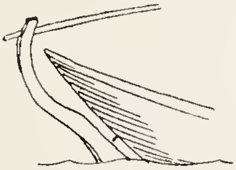

FIG. 132

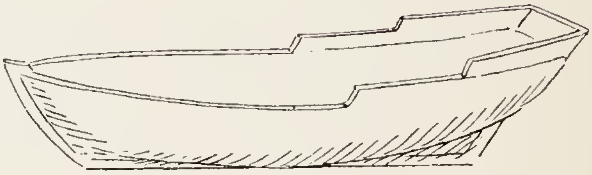

FIG. 133

I do not mean to imply that all medieval ships were small. That view is prevalent, but needs correction. We are told of King Alfred's ships that some had sixty oars and some more. Thirty oars aside implies a length of hardly less than a hundred feet and probably more. Coming to later times we hear much of the small size of Queen Elizabeth's ships, yet the 'little' *Revenge* was more than ninety foot on the keel, and since her stem raked like a *sambuk's*, and her stern was not vertical, she must have been little short of a hundred and twenty feet between the perpendiculars. Nevertheless there is little doubt but that the average of medieval ships was less than that of wooden ships in

Northern waters to-day, and that they were more like the little coasters of the Mediterranean and Red Sea. An English coasting schooner would seem a tall ship at Massawa.

As usual there were only two markedly different types of vessel—those with square and those with pointed sterns. Some of the square sterns were very handsome, but I saw no carving. It is rather astonishing above such a seventeenth-century stern to see a modern wheel. All, or nearly all, the square-sterned vessels were two-masted, but some of those with sharp sterns had but one mast (fig. 134).

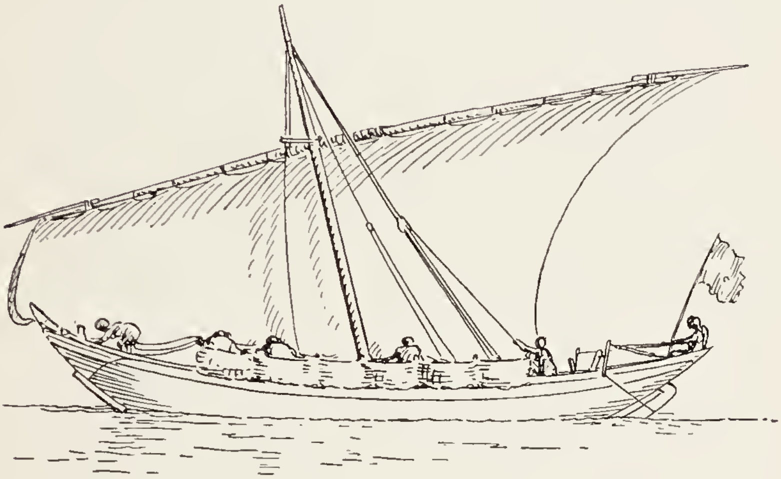

FIG. 134

These sharp-sterned craft may well have been of the type called *ballam*, the distinguishing feature of which, mentioned in the Arab's description and shown in his diagram, is the peculiar steering-gear. Both stem and stern-post are much raked, and neither reaches the gunwale, but both stop short about half-way between the water-line and the extremities of the bow and stern. Above the stems the planking of one side seems to meet that of the other direct, and the bow where they meet has several grooves which look as though they were made by the tack. The rudder either has no rudder-head, or has one that overlaps the top of the stern-post out of reach below the overhang of the stern. The steering-gear is extraordinary (figs. 134 and 135). A stout fixed bumkin projects over either quarter. Loosely attached to the outboard end is a little stick; it is not big enough to call a spar, and may be three feet long. When not in use it hangs horizontally. From one end a line goes to the after-edge of the rudder, and from the other a tackle leads in board and aft. The steersman sits right aft in the point of the stern with a tackle fall in each hand. When any strain is put upon the tackle the little stick or yoke stands vertically abaft the bumkin, with the end to which the line from the rudder is made fast downwards. Sometimes the gear is less elaborate, and in its simplest form consists of a line to the rudder on each side.

The *ballam,* if the name be rightly applied, is a graceful craft, and is well set off by simple stripes, the lowest of which bend downwards at their forward extremity, and so diverge from the stripe next above. The sheer is easy, and the line of the gunwale is not broken by a high stern bulwark. One such craft had an unusually long overhanging bow. Another was decked from aft almost to the mainmast. At sea they have the usual matting above the gunwale amidships.

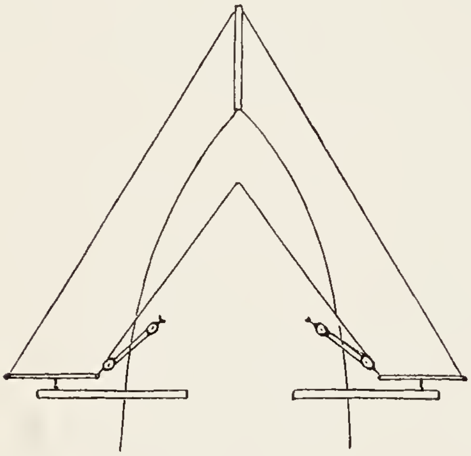
Fig. 135

A primitive form of sweep is in common use, consisting of a long pole having an oblong board fastened transversely to the end for a blade.

Many dug-outs are used at Massawa besides those belonging to the ships, but there is an even more primitive craft in use for fishing. It is a small raft of three or four logs. The fore ends of the largest logs are slightly turned up, and generally the logs forming the sides are stouter than those in the middle, so that the craft is a little hollowed amidships. A light piece of wood is laid athwartships near each end and lashed. They use a double-bladed paddle with round blades. The fisherman sits with his legs in the water with a receptacle for fish beside him. The raft shows little above the water but the upturned ends of the logs. In that climate it is no hardship to be wet all day. At the time of our visit in July the temperature of the sea water outside the harbour was 92° Fahrenheit.

The Red Sea craft are interesting as an example of the evolution of a rig that in the conditions suits its users so well that it is supreme. In the North Sea, the Channel, and the Mediterranean the rigs vary in an astonishing way, often very difficult to account for; but in the Red Sea every native craft carries one or two lateen sails and nothing else. The fact that the culture of both shores is the same probably makes for uniformity; for though the black Sudanese is very different from the Arab of the Hedjaz, yet they both follow the Prophet, and belong to the same civilization. It is one that does not depend on machinery. Again and again, examining the buildings and manner of life, as well as the vessels of these peoples, I have been reminded of old pictures and of the chance glimpses of former times that the perusal of records gives. Here you can see the old life going on; the high-sterned ship at the quay, with a man walking up a plank with a sack on his back, a number of people standing on a little poop, men going armed, little towns that you enter by a gate, magnificence and an underlying squalour. No doubt they could import better timber and canvas, and rope; but they manage with what they have, and if it serves, why use other? I do not think motors will come into use yet awhile. If a sail splits or a yard is sprung the damage is easily repaired, but engine-room troubles require shops and machinery to put them right. When these are plentiful doubtless motors will be used. Another factor which may in time bring about a change is the immigration of Indians, who are already numerous on the African shore. At present they are chiefly shopkeepers; but if they take to the sea, they may not be content with existing methods or material or rig.

MODIFICATIONS OF THE LATEEN

The lateen cannot survive in Northern waters, and when it reaches cold climates modification begins. One of the simplest ways of modifying a lateen is to shorten the yard and lengthen the luff, producing a lug. This has occurred in those parts of the Mediterranean which are stormy and where the winters are cold. The best example, I believe, is the Adriatic, a sea I have never seen except from the window of a railway carriage at night. About the coasts of Greece lugsails are common. They will be described in a later chapter.

But there are other ways in which a lateen can be modified. The simplest of all is by doing away with the canvas on the forepart of the yard, leaving a sail such as might be set on a gaff. This is what happened in the eighteenth century to the old lateen mizen. It was mentioned in the chapter on square rig. The yard was retained in large ships for years after the lateen mizen had been abandoned, and was not finally given up till the first years of the nineteenth century.

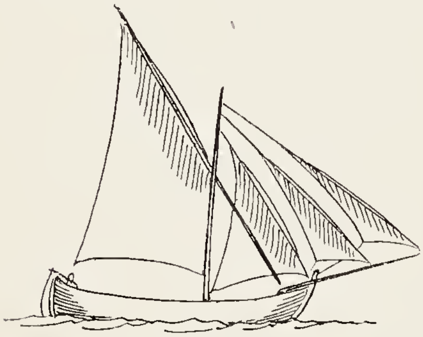
Fig. 136

In the autumn of 1918, while steaming up the Gulf of Salonika in a haze, our ship passed through a little fleet of craft bound in the opposite direction. At first sight their most noteworthy feature was that some of them carried a square topsail with no yard to spread its foot.[1] They carried sails wherever sails could be set, and these obstructed the view of the mainsail which was a lateen set on the after part of the yard only. We passed by them so quickly, steaming in the opposite direction, and the weather was so thick that observation was difficult, and many details were missed; for instance, they seemed to have an elaborate peak halyard, but each vessel was gone almost as soon as she was seen, and each was so crowded with sail that one could not verify from the next what had been half seen in one just passed. The boats seemed about thirty feet long, and had rounded stems and stern-posts. Besides their half-lateen mainsail they had a foresail and one or two jibs set on long steeving bowsprits (fig. 136). One had a mizen, but she was too far off for its shape to be distinguished: probably it was a gaffsail (fig. 89). One mainsail at least had a row of reef points at the foot. They carried also the topsails afore mentioned, spinnakers, water-sails under the mainsail, jibs abaft all stretched between the end of the spinnaker boom and the upper yardarm, and probably other sails as well; but it was their topsails and half-lateens that gave them their interest. I learnt afterwards that the half-lateen was a winter rig. They vanished in the haze and I never saw them again.

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[1] *Vide ante*, p. 82.

A third way of modifying a lateen is to top the yard till it is nearly parallel with the mast, and fix it. The sail will then have become to all intents and purposes a leg-of-mutton or Bermudian sail; the yard, in function, will be a mast. When this stage is reached there will be no real reason for two spars, the combined mast and yard being in effect a tall tapering mast, and the next logical step would be the entire abandonment of the yard, with consequent lengthening of the mast, which would be, mentally, the fusion of mast and yard in one.

A like process has occurred in the topsails of racing yachts. Formerly the yard used to be set nearly horizontal like that of a lug. Next it became slightly peaked, but still a good part of the sail was before the mast. Then the angle of the yard with the mast became smaller and smaller, and at last the yard was as nearly vertical as it could be got, and practically all the sail was abaft the mast. Finally, the topsail yard was abolished and the topmast correspondingly lengthened, and so the head of the sail became the luff.

With the lateen the first hint may have been given by the discovery that the sail could be used with the yard nearly vertical. In that position, with the lower end securely made fast, it would be less likely to take charge in a sea way, and with the clew boomed out would be serviceable for running. This position would also be useful in lumpy water with light airs when the wind near the surface of the sea is apt to be broken up by the waves. In such conditions the lofty peak might catch a truer wind than any that would reach the sail if the yard were at a wider angle with the mast and consequently lower. A one-masted boat designed to carry her sail in the ordinary way would of course require headsail if she set her mainsail so when by the wind.

The first stage of the change from lateen to leg-of-mutton sail can be seen in the way the mizen is fitted in certain Italian coasters mentioned above.[1] In these the yard can still be lowered, though ordinarily it is kept aloft (figs. 113 and 137).

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[1] *Vide* p. 113.

In the Greek seas a common type of vessel has carried the evolution farther (fig. 138). These craft are remarkable for their great sheer, and are so low amidships that they require high waist-cloths. The stem and stern-post are raked and curved. The hull is generally painted a light colour. In length they are about forty feet. They have one mast and a very long steeving bowsprit. At first sight they appear to have a tall pole mast, but on examination it is seen to consist of two pieces. It is, in fact, a mast and yard clamped together. Sometimes the lower end of the yard comes to within a few inches of the deck, and sometimes it is scarphed into the mast half-way down or not so far. Then it looks like a topmast stepped abaft the mast, and its origin might easily be missed. Three irons encircle the masthead and the yard, and to these the blocks for the halyards of the foresail and two jibs are attached. The mainsail is kept aloft, and is fitted with two brails which have a downward pull, and so bring the upper part of the leech taut into the yard. There is one row of reef points. The foot of the sail is spread by a curious half-boom which projects far over the stern. The inboard end reaches less than half the distance from the stern to the mast, and is attached to an upright timber by what is apparently a gooseneck. I say apparently because I have been told that the boom is never eased off, and if that is so there seems no necessity for a gooseneck. Near the stern the boom rests upon a stout gallows, with a crutch placed a little to one side. To the boom end go guys with purchases, and there is a light topping lift leading to the upper yardarm. I could never be sure that any of these vessels had a true pole mast and no vestige of a separate yard, but it is possible that some are so fitted. Sometimes a squaresail is carried and is kept bent to its yard and furled beneath it in the usual fashion of the Mediterranean. Some vessels

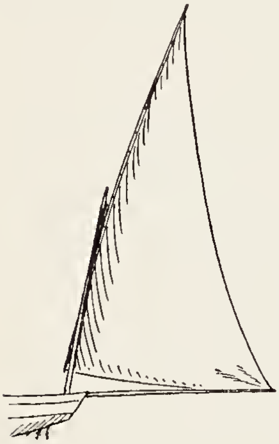

Fig. 137

with a clipper stem and a counter are rigged in the same manner.

At Port Said vessels are sometimes seen rigged like fore and aft schooners, but with leg-of-mutton sails (fig. 139).

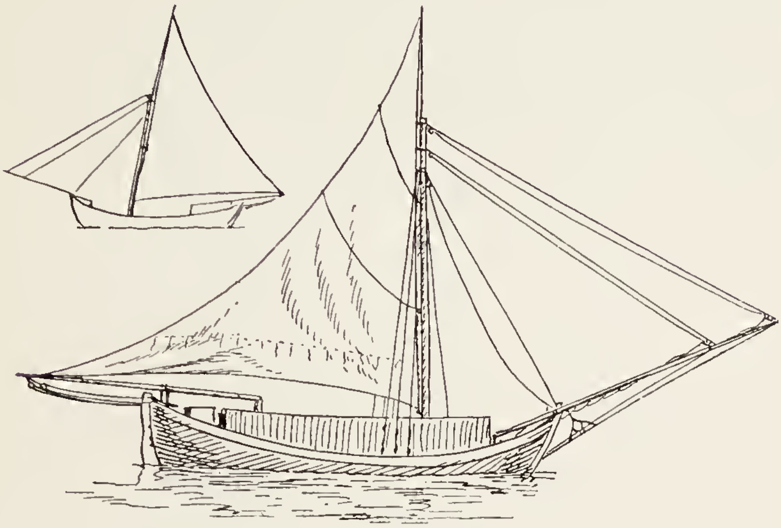

Fig. 138

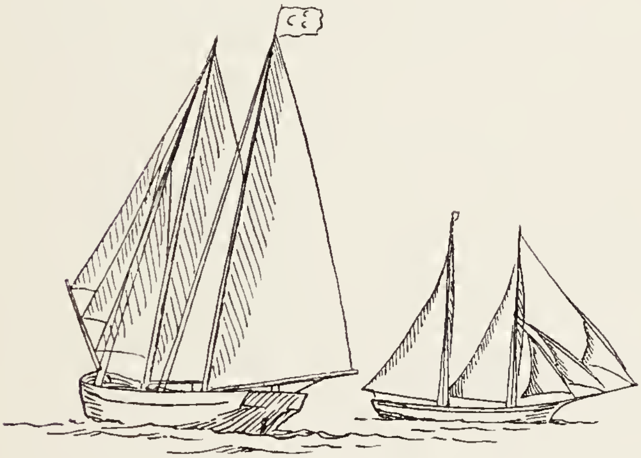

Fig. 139

These may not be descended from lateens; but it is probable that their design was influenced thereby, and their masts and sails illustrate, even if they are not actually examples of, the last stage of the development described above. I was told that these craft came from Syria. I saw one flying the three crescents of Egypt. In hull they differed, some being almost sharp-sterned and some having a well-shaped counter. The shape of the stem also varied. Though their rig was essentially the same there were several points of difference. All had their masts nearly the same height, the mainmast being slightly the taller. The foresail had a loose foot, and the mainsail a boom. She that flew Egyptian colours had the head of her mainsail a trifle lower than her foresail, though the mainmast was the taller of the two. Her stays and rigging came almost to the mastheads, and her forestay came to the bowsprit, and not to the stem head. She had three head-stays carrying sails. In another the shrouds came half-way up the mast, and the forestay and main-stay also, as though there were a memory of a masthead there, and of either a topmast or up-ended yard above it. Close above the forestay was a jib stay, and the next stay and the flying jib halyards were almost at the masthead. She set a main staysail, but had no stay corresponding with a main topmast stay. She flew French colours. Another had four stays to her foremast and three to her mainmast. Sometimes two brails were fitted leading somewhat upwards from the leech to the mast.

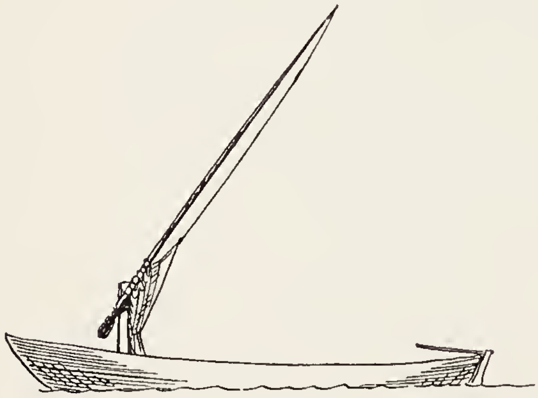

Fig. 140

The rig is workmanlike and even graceful. The craft that carried it were fairly large, perhaps ninety feet long, as big as an ordinary English coasting schooner.

The Turks use yet another variety of the lateen. It is carried in its simplest form by a kind of lighter, much used at Constantinople, called a *salapooriah* (fig. 140). It has a dingy, featureless hull with a raked, slightly curving stem and a pointed stern. It has no mast, but instead a short post carrying on the port side a yard which is kept almost upright by a counterpoise on its lower end. On this the sail runs on rings, and when the outhaul is let go falls in a heap by the post. This strange device is for passing under the low bridges that span the Golden Horn. A few set a foresail, the halyard leading to the yard of the mainsail. The *salapooriah* carries less than forty tons. A similar craft carrying more than forty tons is called a *mahownah* (figs. 141 and 142). She carries the same kind of sail, but the yard is supported by a mast fitted to the starboard side of the post with its heel on deck. When going under a bridge mast and yard come down together. A foresail is carried and often a low-footed jib. I have seen the bowsprit resting upon a slightly raised stem, and its heel on a timber head. In some an ordinary mast is fitted. The yard sometimes has a running lift, but more often there are two or even three standing lifts. The rings that carry the head of the sail cannot traverse beyond the lowest of these lifts, and so part is unsupported. Sometimes a line goes from the yard to the bowsprit end.

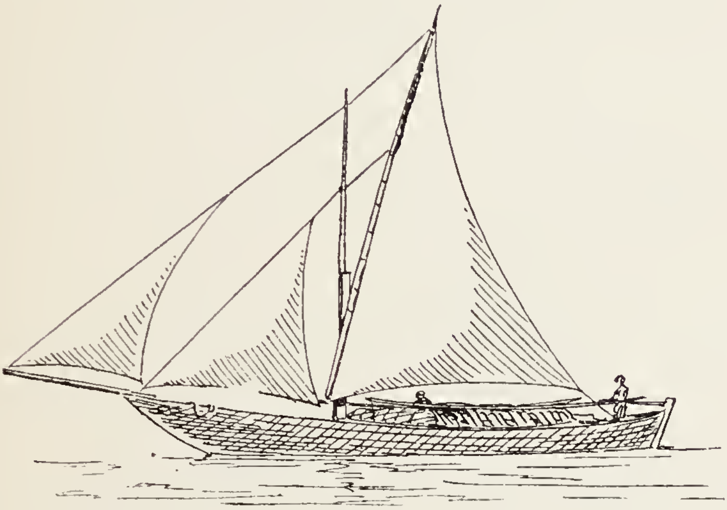
FIG. 141

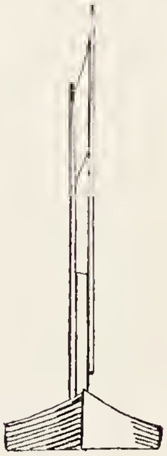
FIG. 142

The angle of the yard varies. In some craft it is peaked very high, in others there is a considerable gap between the yard and the mast. Hardly any of the yard comes before the mast, and none of the sail. In the chapter on square rig the craft which a Turkish naval officer called a *pennah* was mentioned as carrying a lateen of this kind as well as her square canvas. Some of these craft have the yard at such an angle with the mast as to resemble a sprit, with the sail on the under side of it only (figs. 28 and 143). It is highly probable that the sprit has influenced the rig, but another reason for carrying the yard well away from the mast when square sails are used is to give a better lead for the topsail braces than the peaked yard provides.

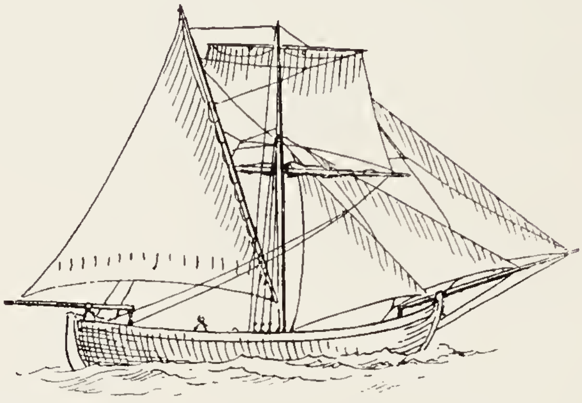

FIG. 143

In the *mahownah*, if I am using the word correctly, the yard is sometimes fixed as rigidly as possible with a couple of standing vangs on each side set up abaft the rigging like backstays.

These Turkish vessels are not heavily canvassed, and their rather mean looking sails with their yards held immovable offer a notable contrast to the delicate wings of the south which wrestle with the wind and, stooping to every puff, by yielding are not overcome.

V

SPRITSAILS

The sprit is so simple a method of setting a sail that it may with confidence be presumed to have arisen independently in various parts of the world. Its origin, as far as I am aware, is unknown, and the earliest record hitherto brought to light is a picture of 1420 described by Mr. H. H. Brindley.[1] We may be sure, however, that it was known before this. During the sixteenth century the spritsail was the ordinary fore and aft sail used by the smaller vessels, many of which are shown with it in Waganaer's *Speculum Nauticum*. The mainsail of the Elizabethan hoys, some of which carried as much as two hundred tons, was a spritsail. In the seventeenth century the standing gaff, known as a half-sprit, began to replace it, and the development of the true gaff produced a rival which has almost completely ousted it about our coasts, till nowadays the only vessel of considerable size which uses it is the Thames barge (fig. 144). She is often called the Thames barge to distinguish her from

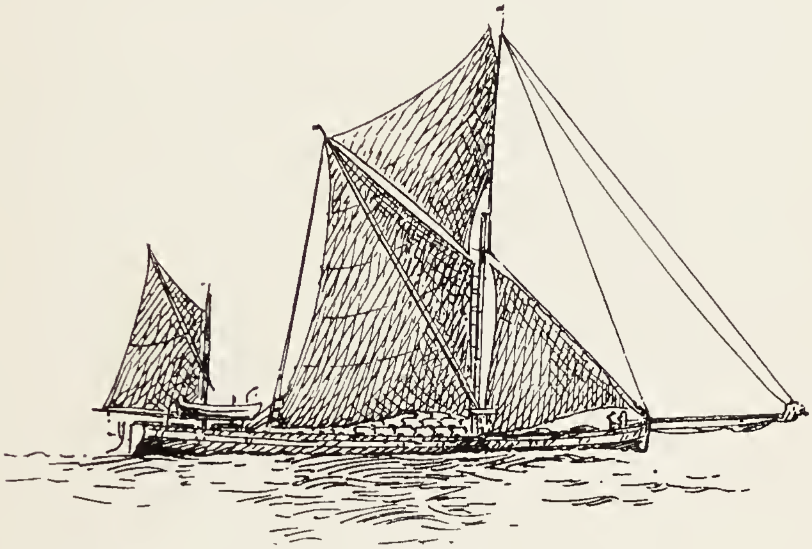

Fig. 144

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[1] *Mariner's Mirror*, vol. iv, p. 221.

more ignoble barges; but though she is found in greater numbers in the Thames than anywhere else, the rig is much used in the Medway and in the rivers of Essex, and lately on the south coast also.

The highest development of the spritsail rig can be studied by Londoners at their doors, for the barge with her lowering mast can go wherever she can float.

Often where most people are ignorant that there is water, the masthead and sprit can be seen above the houses. Above bridge all along the Surrey side of the River, whose true picturesqueness improvers wish to destroy by building an embankment, her presence salts the pleasant jumble of creek, wharf, and warehouse, dumb barges, boats, and mooring posts on which the eye feeds.

Out in the stream at the right time of tide barges can be seen under their bridge sails, a lug forward and sometimes the mizen, and even a lug on the topped-up bowsprit, or, if the wind does not serve, jilling with anchor a-trip and sweeps out. The lowered mast and sprit cover the hatches with a seeming hopeless confusion, and many Londoners at Margate probably do not recognize the vessels proudly sailing round the land for the same low toiling bottoms that they saw creeping past the Old Swan Pier.

The barge in her present usual form is about a hundred years old, though the main feature of her rig is much older. Could the citizens who thronged to see the *Golden Hind* at Deptford visit their river again, almost the only familiar objects would be the sprits of the barges, which would remind them of the hoys of their own time. To this day barges are often called hoys by the people who live on the shores they frequent, and till a few years ago the Hoy Inn at Benfleet had a barge painted for its sign.

The essential feature of a barge is her flat bottom and sharp chine. Her sailing qualities depend upon her lee-boards, and without them she is useless for windward work. There are two chief types of hull. That which is much the commoner has usually an upright straight stem, though sometimes it is very slightly rounded at the forefoot. There is a neat run and a transom which, when the vessel is light, is not immersed.

The other kind of barge is known as a swim-header (fig.

145). She has no stem but a flat overhanging 'swim', as it is called, something like the end of a punt, but wider below than above. The ordinary dumb barge, of which dozens can be seen anywhere between Westminster and Greenwich, has the same bow. Formerly swim-headers were more common than they are now, but a few were still to be seen early in 1919.

A few barges have been built with pointed sterns. They were called Nipcat barges, and I was told that only three were built. It is nearly fifteen years since I saw one.

An ordinary barge is about 80 feet long and 18 in beam. The Channel barges are bigger, and a few are very much smaller. She is wall-sided, and her leeboards are parallel with her topsides, unlike those used by the Dutch, which incline outwards so that the lower edge stands a little distance from the hull. Wall-sided and flat-bottomed as she is, a barge is far from ugly, and her sheer and the lines of her gunwale are pleasing. She is decked, with a long main hatch, and the larger barges have a cargo hatch before the mast as well. There is a little forecastle and a cabin aft. Some barges have the deck raised a few inches aft to give more head room in the cabin. The bulwarks aft are a few inches higher than elsewhere. Both steel and wood are used to build barges. In April 1919 there was a wooden barge in frame near Rochester Bridge, called in correct anticipation *Lord Haig*.

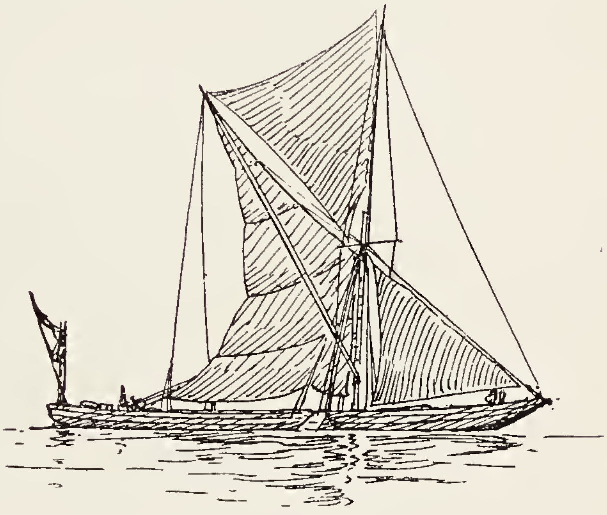
Fig. 145

In rig there are several small differences; but only two forms are important enough to be considered separate species, that is to have different names. These depend on whether or not a topmast is fitted. Those with a topmast are called 'topsail barges' (fig. 144), and those without, 'stumpies' (fig. 146). Both rigs are found in each of the main types of hull, but swim-headers are more often rigged as stumpies than as topsail barges. Stumpies are used more in rivers, and seldom venture far below the Nore. A bargeman once told me that their crews formed a separate class and seldom sailed in topsail barges.

In an ordinary barge the mainmast is placed a third of the length from the stem or even a little more. It is stepped on deck and pivots in a tabernacle, which the bargeman calls a 'mast case'. It is raised and lowered with the aid of a stout purchase at the lower end of the forestay. The mast depends entirely on the standing rigging for support, which is supplied by two or three stout shrouds a side and a runner and tackle. The topmast is as long as the lower-mast but is a much lighter spar. It is frequently struck, and the heel-rope is kept rove. The crosstrees are of iron and have a wide span. They are hinged and fitted with lifts to top them up should occasion require. Two topmast shrouds are usual; there are no preventer backstays.

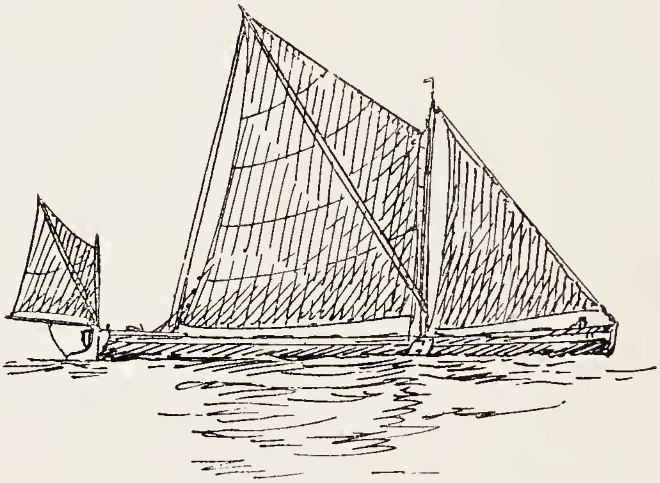

FIG. 146

The topmast stay comes either to the stemhead, or, if a bowsprit is fitted, reeves through a block at the end thereof and is set up in board.

The great sprit—a bargeman pronounces it *spreet*—which is sixty feet long or near it, is supported at its upper end entirely by the head of the sail. The bolt-rope is therefore very large, and has an eye at the after end into which the end of the sprit goes. At the lower end of the sprit is an iron band connected with another on the mast, the whole fitting being called the ' muzzle '.

Further support is given at the lower end by a stout wire or chain reaching to the masthead, and known as the ' stanliff ', a modern corruption of standing lift. In addition a light tackle or even a single wire leads from the middle of the sprit to the masthead. It is known as the ' yard tackle ', for the sprit is sometimes, though not often, referred to as the yard. It serves to support the sprit in fitting out before the sail is bent, and sometimes to top it up for some particular reason. It would also act as a preventer were the head-rope of the sail to part. In ordinary use it takes no strain and is kept slack.

Most important for a barge are the vangs, for on them the control of the sprit almost entirely depends. A bargeman once told me that nearly the only thing they were afraid of was the sprit's taking charge. The vangs consist of a very long pendant and a purchase, and come to the gunwale just before the main sheet horse. A pair of preventer vangs is fitted in case of accidents and led along the sprit when not in use. The weather vang is always set up.

The sprit is always on the starboard side of the mast. The mainsail has no halyards, and is kept permanently aloft. It is bent to an iron jackstay on the after side of the mast. It is not furled but is brailed up instead. There are commonly five pairs of brails : two gather in the peak and lead through blocks on the head of the sail to the masthead ; the next pair come to the mast at the throat, and two more pairs are fitted below. The sail has a reef or even two at the foot. The main sheet leads from the clew through a double block running on a wooden horse, then through a block on the leech and down to the double block, and then through a second block higher up the leech. The end is made fast to a pin on the block on the horse.

The topsail runs with hoops on the topmast. It has a short head bent to a little yard. It hoists with a tye and a whip purchase of which the standing part is sometimes made fast to the forestay just below the eye. The sheet, which is fitted with a purchase, leads along the sprit to the mast. The tack comes down to starboard. A downhaul is bent to the clew and then reeves through a block at the after topsail yardarm. In lowering the topsail the halyards are let go before the sheet is started, and the action of the downhaul is what its name implies. When the yard is down the sheet is let go and the downhaul now acts as a clew-line and gathers the sail into the masthead where it stows itself.

Sometimes, but very rarely, the topsail is carefully furled with a tyer at each mast-hoop, and is then hoisted. The disadvantages of this method are obvious, though if the sail were furled with stops, to be broken when the sheet was hauled out, it would be set more quickly than by hoisting in the ordinary way. I have twice seen a topsail furled thus, in 1913 and in 1919. Probably the sails were in stops.

In setting the topsail in the ordinary way the sheet is hauled out before the halyards are manned. Topsails slightly differ one from another in shape, but not to an important degree.

The foresail of a barge has a characteristic appearance due to its shape, which is almost that of an equilateral triangle, and to the way the foot slopes aft, which it does, especially when the tack is high, to avoid the forestay purchase. The clew works on a horse, and a bowline[1] is sometimes used.

The mizen is also a spritsail, and the sprit is on the starboard side like the main. The mast, which varies in size, but is usually very small, less than half as tall as the main lower mast, is generally stepped, nowadays, well in board, and far enough from the stern to prevent a tiller's being used. It is, however, usually far enough aft to require the sail's being sheeted to the rudder, to which a chain pendant goes from the lower sheet block. The foot of the sail is spread by a boom. The stanliff of the mizen is ill-named, for it is not standing, but consists of a tackle. When this tackle and the chain which keeps the lower end of the mizen-sprit to the mast are eased, the end of the sprit comes forward and the spar lies nearly horizontal. Dutch sprits are, or used to be, so fitted.

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[1] The bowline of a staysail is totally different in function from what is ordinarily meant by the word, in that it acts upon the leech instead of the luff. It is merely a piece of line fast to the rigging and rove through a cringle and made fast. It holds the foresail aback till the barge has paid off after staying; then it is let go, the sail swings over to leeward, and the other bowline is passed.

Vangs are seldom required. The sail is fitted with a brail and there is a topping lift for the boom.

The mizen-mast can be lowered by means of a tackle which acts as a mizen-stay. It comes to the tiller when there is one.

The foregoing sails are nearly always dressed with an ochre mixture which gives a pleasing warm hue. The topsail often carries in white letters the initials of the company to which the barge belongs, or, with more pleasing effect, a device such as a crescent or the white horse of Kent. A few barges have black sails.

Sails which are not dressed are the jib, when carried, and the light sail set on the fore topmast stay. This latter sail a bargeman often calls a spinnaker, but most other people would speak of it as a jib topsail; though when its tack comes to the stem, as it does when there is no bowsprit, that name does not seem right.

A mizen staysail is sometimes set, and I have seen mizen topmasts, but never a mizen topsail. I have seen a squaresail, but barges very rarely carry one.

Besides exceptional sails there are some slight and fairly constant variations of rig. Rochester barges, for instance, hardly ever carry bowsprits; but Essex barges commonly do, for the reason that their cargo is frequently an immense load of hay which allows very little of the foresail to be set, and therefore a jib is required. A hay barge's foresail is fitted with a deep bonnet which is unlaced when the cargo is on board. Often the mainsail has a bonnet too. Many Essex barges retain an old practice which is seldom seen in craft belonging to the Thames or Medway, the stepping of the mizen-mast in the rudder-head (fig. 147). The sail acts like a rudder in the air and helps to bring the vessel's head up quickly when the helm is put down. With the mizen-mast so stepped there is of course a wider space between the mizen and the mainsail than when the former is in board, and this gives a particular look to craft so fitted. They steer with a tiller. A few are stumpies. A stumpy never carries hay, but now and then one is seen with a bowsprit. I have even seen—a good many years ago—a topsail set on the short masthead. It was not a regular sail, but just a piece of canvas to act as a save-all. A bargeman told me that with a haystack on board, the helmsman not being able to see ahead, had to steer by the wake.

A hundred years ago the mizen seems to have been rare, and at the present time barges are seen without it, usually stumpies. Its absence gives a barge an unfinished curtailed look.

Swim-headers have the forestay at a more acute angle with the line of the deck than other barges, because their masts are farther from the extremity of the bows than is the mast of an ordinary barge from the stem. The difference is striking.

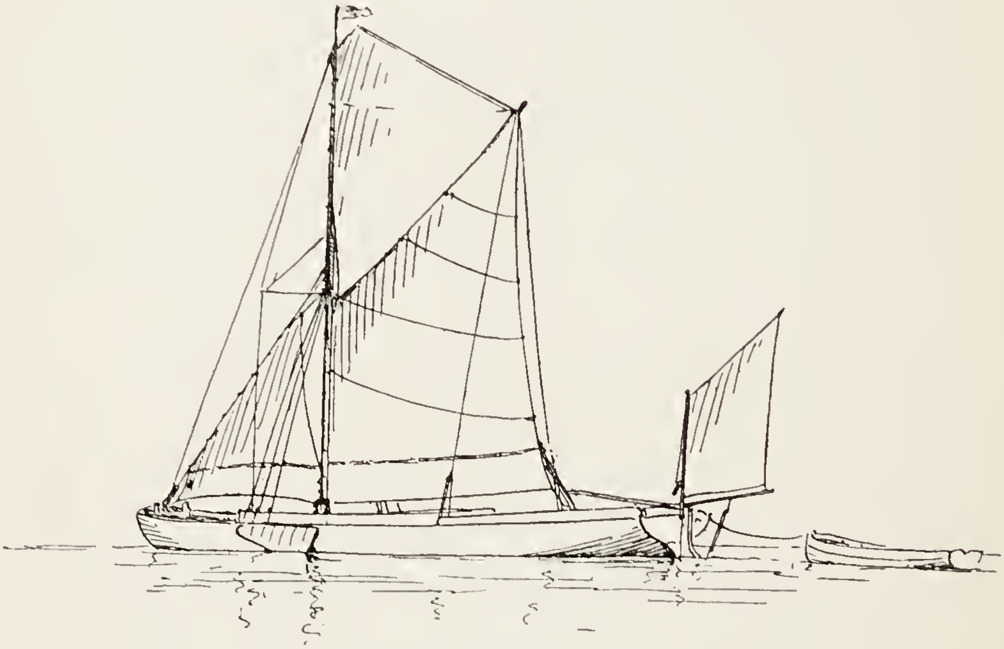

Fig. 147

In some Channel barges of greater tonnage the mizen is much larger compared with the mainsail than in the ordinary sort, and some have a gaff-mizen that either hoists and lowers, or is carried on a standing gaff (fig. 148). Large steel barges have been built with standing bowsprits and several jibs set on stays.[1]

Two rigs which properly do not belong to a chapter devoted to spritsails may be alluded to for the sake of completeness. A few barges with the ordinary sort of hull are fitted with gaff mainsails and called 'boomy barges', and now and then a stumpy is met in the River with a lug mainsail. I saw one in 1913. She had a mizen and a foresail of the ordinary pattern.

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[1] Since the war it has become increasingly usual to set the jib on a stay in ordinary barges.

At her topmast head a barge has an ornamental vane, and sometimes on festive occasions she displays a huge pendant with her name on it at the end of her sprit. The sprit itself often has coloured bands about its middle.

The crew of an ordinary barge is two men. An extra hand is carried for shooting Rochester Bridge and for coming under the bridges of London. You can often tell that he is on board by the presence of two boats towing astern instead of one. The reason why so large a vessel can be handled by so small a crew is that they can weigh the anchor. A barge has a powerful winch. One man shortens in, the other joins him till the anchor is broken out, and then goes aft to attend to the helm. Winches are used in setting sail and in brailing up and in raising the lee-boards. As in a square-rigged vessel, the topsail is set before the mainsail. A barge can get under way comfortably under topsail, foresail, and mizen, and then set her mainsail at leisure. In going about there is little to do beyond putting down the helm, and letting go the weather fore bowline, and passing the lee one. When tacking in narrow waters both lee-boards are left down. Without her lee-boards a barge will refuse stays. I once saw one behaving badly

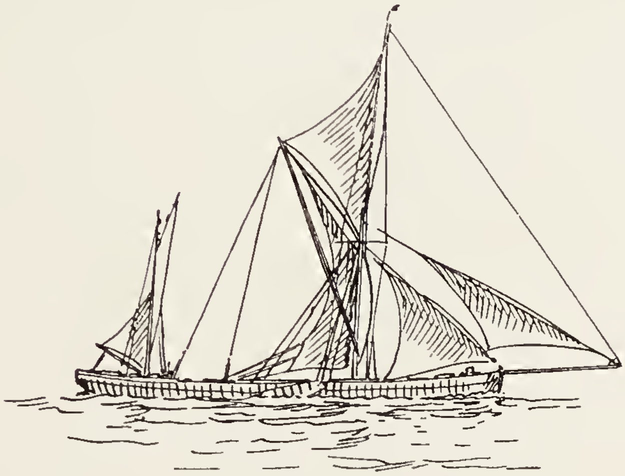

Fig. 148

in the Ray Sand Channel, between the Buxey Sand and what is known as Maldon Main, and so well do barges sail and so magnificently are they handled as a rule, that until I realized that in the state of the tide there was not enough water for her leeboards to be lowered, her conduct was a mystery. Wherever she can float a barge will go if need be, and will sail up the narrowest channel. Nor are barges by any means confined to inland waters. The larger ones are to be met in all the English Channel ports, and not a few of the French.

In blowing weather, or even in a fresh breeze, barges carry weather helm, and to correct it the first thing usually done is to brail the mizen, either completely or partially. If this is not enough the main brails are manned. If it blows harder, the peak and throat brails are hauled close up and only the lower part of the mainsail set, and if the wind still increases the mainsail is brailed up altogether. In smooth water under topsail and foresail a barge will stand up to a pretty hard wind. Before being reduced to bare poles she has one resource left, the topsail halyards are let go but the sheet is not touched. This leaves a small triangle of sail between the lower masthead and the end of the sprit. Even if the topsail has been left too long, and the topmast carry away, no great harm has been done if in the river. After such an accident I have seen a hand stroll leisurely forward and stow the wreck to the best of his ability while the barge kept on her course.

In an ordinary squall the topsail halyards are let go and the mainsail is left standing. Barges are seldom alone, and no skipper likes to be the first to take in sail. I remember near the Ovens Spit seeing a number of barges with a fresh breeze abaft the starboard beam. Their sails stood out against a great black cloud that threatened more wind. It came, and foam sprang up before each bow. The cloud drew nearer and darker above the deep green of the river, and the masts stooped together; but not a halyard was let go, till at last in a craft less laden than the others the belly of the topsail broke suddenly into folds and down it came, and immediately, as at a signal, the other topsails followed it.

The barge retains her spritsail because it allows her to carry a mainsail larger than two men could comfortably hoist if it were a gaffsail. Since most of her work lies in sheltered waters the chief objection to the spritsail, weight aloft, is not felt. Channel barges, it is true, carry the sprit in open water, but that is because of the momentum of tradition. They are a species entering a new environment, and, if they are not quickly superseded by steamers, we shall probably see them lay aside their sprits and take to gaff sails.

A few small open boats use spritsails, and in the Navy skiffs have them and carry a foresail as well (fig. 149): too elaborate a rig for such small boats and seldom used, nor when used of much service. A simple standing lug would be much better, and since no one would sail a skiff in bad weather, the sail area might be at least half as much again with profit. As it is the sails are so small and stout as to be nearly useless in just the weather that should suit a skiff. Both the little pocket handkerchiefs have a reef.

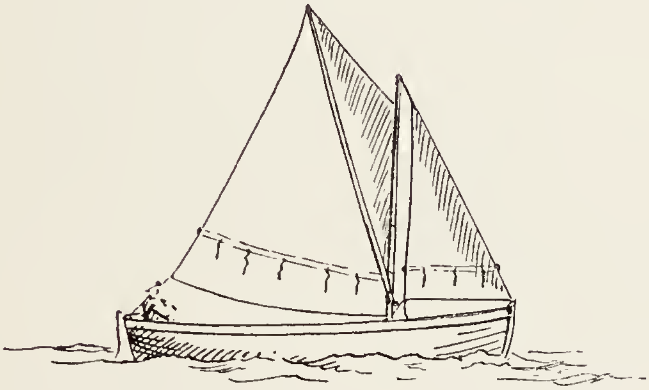

Fig. 149

When a Portsmouth wherry sails, which is not often nowadays, she sets a spritsail. If pictures may be trusted, she used to carry three within living memory.

The sail is still used in Holland, or was in 1910, but is dying out. In that year a very few of the Flushing shrimpers had sprits, perhaps one in twenty. The rest had gaffs.

In the Southern Orkneys, where oxen are still used in carts and for ploughing, and wagons with spokeless wooden wheels, in at least one island, are found the most convenient for farm work, some of the boats were rigged with spritsails in 1917.

These boats, which are called *yoles*, are used for fishing and for passage between the islands (fig. 150).

As a rule they are quite open, though a few of the larger have little decks at bow and stern connected by waterways. They are clinker built, and I counted ten planks between the gunwale and the keel. An ordinary yole is only eleven feet on the keel, but her stems rake and she has great beam carried well aft with flaring sides at bow and quarter.

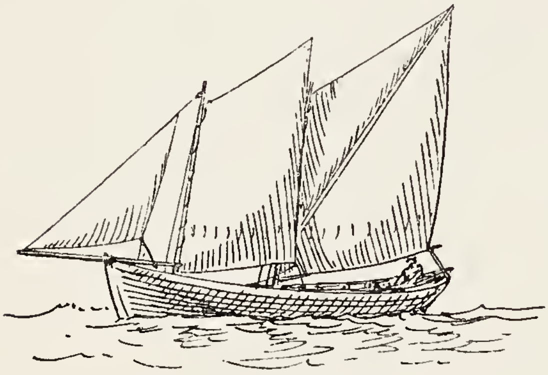
Fig. 150

A man belonging to a yole that carried goods and passengers from the precipitous island of Hoy to Stromness, told me that she could carry two tons, but that since the Fleet had come to Scapa Flow they dared not take more than one ton for fear of the wash of destroyers. This boat may have been 14 feet on the keel. She left soon after, and leaving the Isle of Graemsay to port made across the Sound to Hoy. I followed her course with interest ; had she left a little earlier she could not have stemmed the flood, and had she delayed, the terrible roost would have awakened with the ebb and have been avoided with difficulty ; but her crew exactly understood the manner how and time when for her passage, the Sound seemed to sleep, and she reached the farther shore in safety.

Now this was an ordinary everyday trip, and though Scylla was lacking, the skill and judgement of these boatmen had avoided a danger not much less than Charybdis. The people of Scotland are commonly better educated than we of the South, and it is probable that somebody in the yole had read of Ulysses' adventure. I wonder whether he realized his fellowship.

A yole has two masts and a bowsprit. The bowsprit passes through a gammon iron on the port side of the stem, and its heel rests in another iron on the foremast. The foremast is upright, and the mainmast, which is stepped amidships, is raked, so that though the two masts are almost of a size the main masthead is a little lower than the fore. The jib halyards reeve through a block fitted with a strop at the masthead. The fore and main halyards pass over dumb sheaves. There is a light main boom. The foresail has two sheets. The sprits are carried on either side of the sails, usually one on each side, but sometimes both on the same. The lower end of the sprit, as is usual in boats so rigged, rests in a strop which encircles the mast also. In England this strop is called the ' snotter'. I had heard that the Orkneymen called it a *shangie*, and the difficulty of confirming this is an illustration of how hardly such information is to be got. A direct question seldom brings the required answer unless the right atmosphere has been produced by previous talk. One day I asked the harbour master at Stromness, whose office I shared, whether ' shangie' was not the name for the fitting in question.

' No, I don't know the word,' he replied.

' It's what we call a snotter in England,' I said, ' the strop in which the lower end of the sprit rests.'

' The snotter is what we call the eye at the peak for the upper end of the sprit,' rejoined the harbour master, ' the strop at the lower end we call the ' shangie'. ' This is a shangie,' and he opened a drawer and took one out.

Yoles do not always set a jib, and sometimes only one mast is stepped. I was told that the sprit was used only in the southern islands, having been replaced elsewhere by the standing lug, a sail that is carried by many southern yoles too. Yoles are being fitted with motors, and probably sails will be abandoned entirely before long.

Besides the yole a much narrower boat is used in Orkney called a skiff or *quill*. When rigged, a standing lug is carried. A little square-sterned boat is called a *lurkie* in the southern isles, and a *sooie* in the northern.

The skill of the Orkney boat sailors was well known in the past. Dr. James Wallace, F.R.S., who wrote an account of the islands published in 1700, speaks of it :

> ' The tides also are very swift and violent, by reason of the multitude of the Isles and narrowness of the Passage ; for when all the rest of the Sea is smooth these Tides carry their waves and billows high, and run with such violence that they cause a contrary motion

in the Sea adjoining to the land . . . yet notwithstanding of the great rapidity of these Tides . . . the Inhabitants, daily almost, travel from Isle to Isle about their several affairs in their little Cockboats or Yoals, as they call them.'

And when Boswell proposed buying the island of St. Kilda, Dr. Johnson replied: ' Pray do, Sir. We will go and pass a winter amid the blasts there . . . We will have a strong-built vessel, and some Orkney men to navigate her.' Far reaching as was Dr. Johnson's knowledge, it was not pre-eminent in nautical matters—he does not seem to have thought of questioning Francis Barber on his return from sea. That the fame of the Orkney men was known to him is a tribute to the skill that is not yet lost by their descendants.

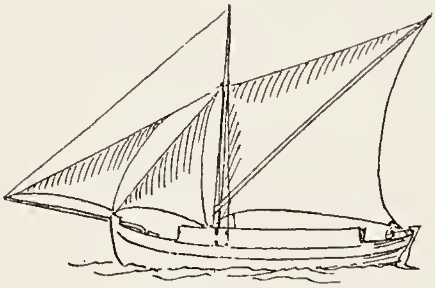

FIG. 151

Among the Greek islands the spritsail is much used, along with a jib and foresail, in boats about 30 feet long. The head of the sail is nearly horizontal. Unfortunately I was never able to examine one of the craft closely.

In the Bosphorus the spritsail vies with the modified lateen yard, and in the smaller boats is the more popular. Some of the larger vessels use it too, and it has already been described in Chapter II in connexion with the square-rigged *tchektima*[1] (figs. 25 and 26). Some craft of the same size and build have abandoned their square canvas and use the spritsail and headsails only (fig. 151).

There is a graceful open boat much used in these waters for which I could learn no name but *caïque*, which I was told means only boat.[2] She is long and narrow, and her sheer sweeps up to a slightly-raised pointed stern (fig. 152). The stem is something like that of a Canadian canoe, recurving, and with a raked forefoot. She pulls with a variable number of oars, from the looms of which is the usual fusiform swelling that acts as a counterpoise and enables long oars to be used in a narrow boat. When rigged, a short mast is stepped well aft, more than a third of the boat's length from the stem, and sometimes almost amidships, so that all the oars can be before the mast. From the masthead to the end of the sprit runs a rope, nearly horizontal, on which the head of the sail traverses with rings in the manner common to the Turks and Greeks. Sometimes another line leads from the masthead to the middle of the sprit, like the yard tackle of a barge, and sometimes there is a forestay set up about two-thirds of the distance between mast and stem, away from the mast. Vangs are usually fitted.

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[1] See p. 42.

[2] I was told also that the word was properly applied to small narrow canoe-like craft with stem and stern alike, but sharper forward than aft. Another pulling boat, my informant said, was called a *sandal*.

Besides the spritsail a foresail is carried. The tack which comes to the stem is high, and the foot much roached. Both sails are very baggy, but the curves, of the foresail especially, are rather pleasing to the eye. Under sail the oars are sometimes left trailing in the water. The thole pin is abaft the oar.

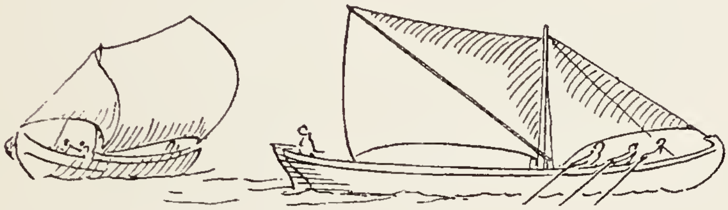

Fig. 152

Like the craft that use the modified lateen, some of the spritsail boats have a bowsprit, and some have no headsail but a foresail. A very strange headsail is sometimes carried. Had I seen it once only and had never heard mention of it, it might have been regarded as a freak not worth recording, but a correspondent described and drew the same thing, so that it is possible that it is more than an individual fancy. The boat in which I saw it was about thirty feet long with high bulwarks amidships and rigged with the ordinary fly-away spritsail of the Bosphorus, but for a foresail she carried a kind of narrow squaresail with a yard and boom (fig. 153). She had the wind abeam or a little abaft it. Her mainsail, with its foot almost touching the water, bellied to leeward almost enough to make the pictures of the sixteenth-century ships credible. These Eastern sails are very different from the Northern spritsails. They are set much less carefully, and often the luff of the sail is loose and clear of the mast.

I saw one boat carrying two spritsails and no other canvas. She was long and narrow. Her mainmast was less than a quarter of her length from the stem, and the mizen-mast was, from the mainmast, rather more than half the distance between it and the stern. A little more than half-way up the mainmast was something shaped like a whetstone, only wider. Its purpose was obscure. The whole rig looked makeshift.

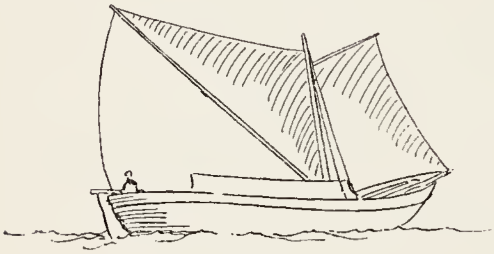

Fig. 153

At Malta, as has been mentioned already, the *ferilla* is rigged with a spritsail. In hull a *ferilla* is much like a Gozo boat and has the same outward sloping cambered waterways with scuppers low in her sides (fig. 154).

She has a short stout mast stepped well forward, and her working canvas consists of her spritsail and nothing else. This the Maltese call a Turkish sail, and their word for sprit is *asta*. The lower end of the sprit, however, is supported in a manner quite different from the Turkish, being stepped in one of several sockets on the upper surface of an arched beam or thwart that spans the boat a foot or more abaft the mast. Before the peak of the sail is made fast to the sprit that spar, which is carried to windward, is passed through a loop which hangs from the headrope near the peak. Photographs show another arrangement in which a bowline is made round the sprit and the end of the line rove through a smaller loop or becket on the headrope of the sail and then brought forward along the sprit. Its purpose is somewhat obscure. It is too near the end of the sprit to distribute the strain more than a little, and for the same reason it does not much prevent the head of the sail from sagging to leeward. It does, however, act in both these ways, and may have no other use. A single vang is fitted consisting of a short pendant and whip. There is a halyard which leads through a sheave hole in the masthead and makes fast forward. The throat of the sail is fitted also with a kind of truss which encircles the mast and is set taut with a purchase. It helps to keep the head of the sail taut. The luff of the sail is free and stands clear of the mast, the tack being made fast near the heel of the sprit. A brail is bent to the foot and led through a loop of rope at the masthead instead of a block.

When the time came to return to Malta from Gozo[1] the weather was still too bad for the steamer, or for some other reason she was not running, so a Maltese baron and a Doctor of Laws who also wished to cross, joined forces with me and we set out in three cabs for Migiarro. It was the baron's truly baronial suggestion that, as three cabs had come it would be a kindness to take them all. As we came down the hill to the port we saw a Gozo boat foaming towards it under foresail, and the wind seemed so strong that I felt doubtful if we should find a boat to take us across the straits or whether a Gozo boat would attempt the eighteen-mile beat to Valletta. But as we drew near to the quay a man met us and inquired if we wished to cross. We chartered his boat. There was a stir in the little harbour, and all the masts were moving. The sea beat on the stone breakwater, which is the only thing that makes Migiarro a harbour at all. In the middle lay a gaily painted high-stemmed boat containing a monk and two other men, and

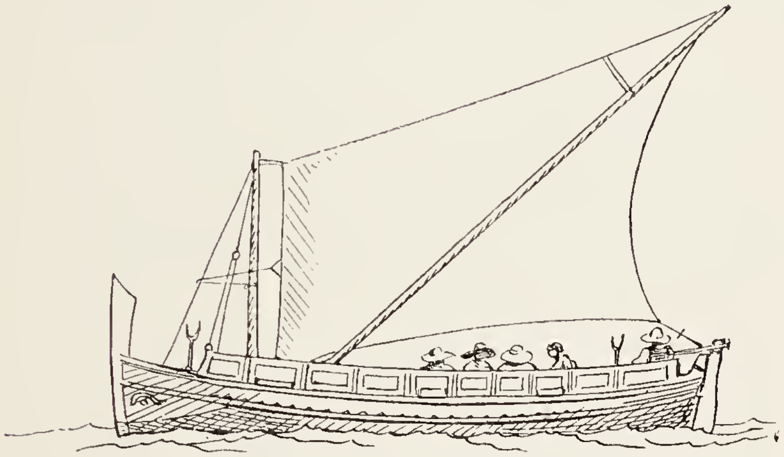

FIG. 154

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[1] *Vide ante,* Chap. II, p. 103 et seq.

some monks on the quay enhanced the medieval air of the place. The post-boat with five passengers got away first under oars. She was a *ferilla,* slightly larger than that which we had taken. She rowed out into the wind and was soon pitching violently in showers of spray. Meanwhile the Doctor of Laws had been bargaining for our fares. The straits from Migiarro to Marfa, the landing place in Malta, are four and a half miles wide, our crew was seven men, and there would be much rowing in a choppy sea. 'He asked fifteen shillings,' said the LL.D. 'He will take eight, and we will give him ten.' Our boat had an eye on each bow. We embarked. Our seven men manned five oars and the voyage began. As soon as we cleared the end of the breakwater we met a short steep sea against which we stubbornly pushed. The passengers aft under a sail, kept reasonably dry. A *ferilla* is not close winded, and the object of our crew was to row about three-quarters of a mile to windward, hugging the coast, and then reach across the straits under sail. The wind and the sea made our progress very slow, and at times we were almost at a standstill (speaking horizontally), but we never lost ground. We kept as near as possible to the cliffs on our port hand to get the advantage of any slight lee they might offer, and so close were we that the spray thrown back from the breakers reached us. The cliffs had an overhanging foot under which the waves crunched and broke, and this at times was perilously near, but the men at the oars knew what they were at, and we kept clear. At last we reached a short promontory under the lee of which the oars were laid in. The mast was stepped, the sprit taken from the two crutches in the gunwale where it lay, and sail was made. The rudder was shipped and off we went broad on the port tack with a beautiful easy motion. Down to leeward we saw the lateener *Giovanna Madre* beating through the channel between Gozo and Comino. The post-boat held an even worse wind than ourselves, and had got so far to leeward that she had taken to her oars again under Comino and was rowing up to windward to get a better start for the second part of the passage. The island becalmed us for a while, but we soon drew clear and lay as close as we could for Marfa. It was not close, seven points at best, but we went through the water at a fine pace. Our sail had a bowline to the luff consisting of a bridle about half-way up, from which a line led forward round the halyard, and the end was made fast to the mast. In this part of the straits we found more sea, but only once had to luff up : a bigger wave than usual was followed closely by another. We slid comfortably over the first, but were obviously out of step for the second. Our helmsman threw us into the wind to meet it : we seemed to stand on our rudder but did not ship a drop. It was well that we had plenty of way for we were so far off the wind, that had we not, we might have failed to meet the wave end on and have shipped much water or been capsized. If the same conditions had occurred again at once I think we should have had to bear away.

The usual landing place at Marfa was too much exposed, and we therefore made for a ledge of rocks which would give us a lee. We could not fetch it, so the boat was unrigged and we finished the passage under oars. We landed on the rocks, and the crew carried the luggage to the inn at Marfa, nearly a mile off. They earned their ten shillings. Near Marfa is an iron pillar, upon which forty years ago, before the steamer was running, a truss of straw used to be burnt to make a signal for a boat when any one wished to cross the straits.

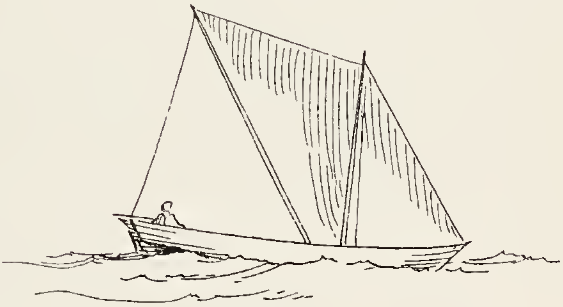


Fig. 155

Now we were joined by a medical official who had been botanizing in Comino. Of the journey the four of us made in one cramped fly, with the baron's luggage, which included agricultural produce and a live fowl, and of how the baron inquired whether a certain well-known surgeon were of high birth or of humble, this is not the place to write, but we got to Valletta more quickly than if we had sailed all the way, and crossing the Grand Harbour that afternoon at half-past four I saw the *Giovanna Madre* come in, seven hours from Migiarro.

A few days later I saw a Maltese *caïque* under sail, a very small spritsail with a long line from the peak to the end of the full-sized sprit which was fitted as in a *ferilla*. The sail was so small that the loop round the sprit near its after end was several feet beyond the sail, the head of which did not reach half-way from the masthead to the end of the sprit.

There was at this time at the upper end of the Grand Harbour a little fore and aft schooner about forty feet long. A Maltese told me that formerly she had been rigged with one mast and a spritsail, and had then been a *trahandilla*.

Later in the year in the River Bug I saw a small boat rigged with a spritsail and foresail (fig. 155). It was hazy weather and she was some way off, too far for her gear or any small details to be seen. The head of her mainsail, as in the Turkish boats, was not far from horizontal, and it was evident that the lower end of the sprit did not reach the mast. Her sails appeared to stand well.

VI

GAFFSAILS

Langston Harbour has been seen by far more people than have ever heard of it, for it is passed unnoticed by the majority of those who travel by train to Portsmouth. If, however, after leaving Havant you look out of the left-hand window of the carriage, a great expanse of mud, or of water, according to the state of the tide, lies before you. There is nothing to catch the eye but a solitary oyster watch-house perched on a little embanked island, or binness, as the Langston islets are called. If you look three miles beyond the little house you will see a cluster of masts belonging to craft lying just inside the entrance to the haven. Were you to sail down the winding, ill-boomed channel, from the oyster house towards the deep water of the harbour mouth, the masts would on most days be found to belong to three sorts of craft ; to clumsy, ketch-rigged, ballast-barges, to spritsail barges of the ordinary sort, and to barges, ketch-rigged, but with a boomless mainsail set on a standing gaff, the sail being fitted with brails and the gaff with vangs (fig. 156).

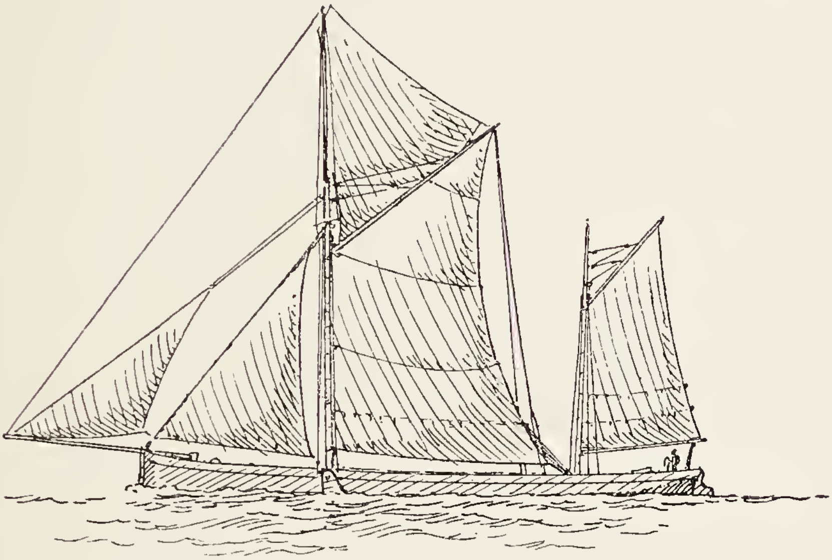
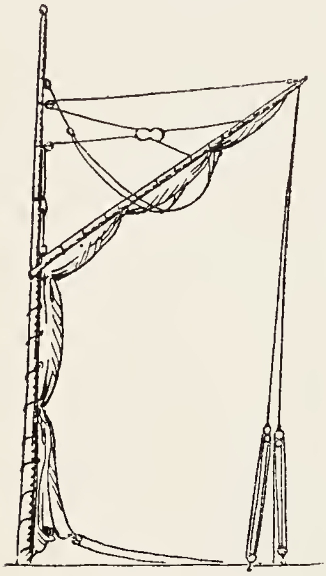


Fig. 156

Except for their mainsails, these barges differ little from those of the Thames estuary, but are humble, creeping craft which seldom venture far beyond the shelter of the Isle of Wight. They are, however, worth noticing, because in their standing gaff and loose-footed mainsail they have preserved the earliest form of gaffsail developed in England. Such were the mainsails of smacks and yachts in the middle of the seventeenth century,[1] and the spar on which they were set was known as a half-sprit, a name which probably tells its origin [fig. 157]. It seems to have dropped entirely out of our speech.



[Fig. 157]

Although like the old half-sprit, this standing gaff is kept aloft, it is hoisted by two halyards in the manner usual to gaffs. Namely a throat or main halyard supporting the lower end where its jaws keep it to the mast, and a peak halyard to support the middle and after part, and arranged so as to distribute the strain on masthead and gaff.

A familiar sight to Londoners when the penny steamers used to ply were the Dutch eel-boats lying off the Custom House Quay.[2] Before towing up river these vessels used to lie waiting their turn in Hole Haven, and might be met under sail in Sea Reach, where their tall, narrow mainsails and short curved gaffs contrasted strongly with the sails of the barges and bawleys.

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[1] The fittings of those days differed slightly from what is usual now. The peak halyards were more complicated, and the throat halyards seem to have been placed a little way out on the gaff, also there were two pairs of vangs. A spritsail barge carries two pairs to this day in spite of the security that wire gives, and it is not remarkable that when men were entirely dependent on hemp they should have been reluctant to part with any preventer gear, even though the adoption of the lighter half-sprit lessened the risk of a vang's parting and of serious consequences if the accident did occur. It must also be remembered that yachts in the seventeenth century carried square topsails, of which the braces led to the half-sprit, putting an additional strain upon it.

[2] In December 1919 I made a pilgrimage to see if the schuits were still in their old berth. They lay just as of old. Now they are gone. I found that I was trespassing on Custom House Quay. This was formerly open to the public, and one of the few places where a view of London river is to be had below bridges. It was closed during the war, and it appears to be nobody's business to get it opened again. It is a delightful spot.

Except for the curved gaff, this narrow-headed Dutch sail is an almost unchanged survival from the seventeenth century (fig. 158 shows the curved gaff, from a photograph taken in the Zuider Zee in 1910).

The pictures of the time show these two distinct forms of gaff mainsail, that set on the long standing gaff or half-sprit, always fitted with vangs, and without a boom, and that with a very short gaff, never with vangs, and nearly always with a boom. From them the modern sail, with a gaff much longer than the Dutch variety, but, like it, hoisting and lowering, and fitted with a boom, was derived, and came gradually into use during the eighteenth century.

Other developments have arisen, and the ancestral types have also their own peculiar descendants, but so much has one form influenced another that it is difficult to trace the lines of descent, and what appears to be a survival may often prove to be a throw-back.

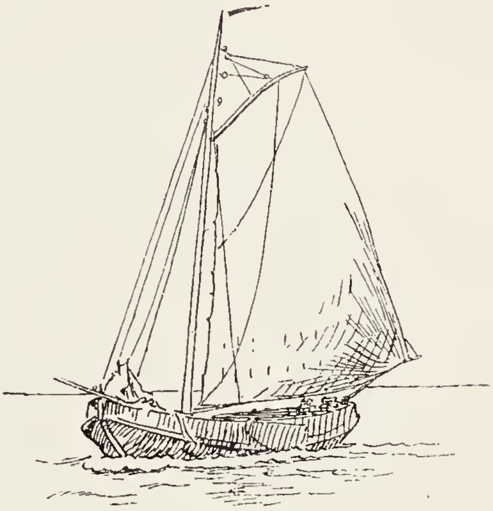
FIG. 158

No better representatives can be found of vessels carrying this sail than the eel *schuits* mentioned above. They are massively built of oak and are not painted. They are flat-bottomed, bluff-bowed, and round-sterned. At the lower end of the stem, and therefore below the water line, is a curious spur or skeg. Its use seems to be to give the *schuit* a better hold of the water forward for windward work. Leeboards are used, which when hauled up are carried clear of the water and project above the bulwarks. The rig consists of a jib, foresail, and the mainsail already described. The after end of the main boom is well in board. The mast is tall and tapering. Fortunately the Dutch marine artists have recorded the features and appearance of vessels of this kind under all conditions, and they may be studied at the Wallace Collection and other galleries.

The Dutch have several varieties of craft resembling these *schuits*. Each has its proper name, *schuit* merely means vessel, but they do not all differ very greatly to an English eye.

The rig is nearly the same for each, and the name goes with the form of hull. Thus *tjalks* closely resemble the eel boats; *boeiers* have greater beam in proportion to length, and are not flat-bottomed, or at least have not a square chine. They are nearly always yachts. *Tjotters* are like little *boeiers*. There are many others, or were in 1910, but even then petrol was so rapidly taking the place of sail that some forms may have died out since. Luckily many Dutchmen take a keen interest in their native vessels, and we may be sure that no type will vanish unrecorded.

The straight Dutch gaff is also still with us.

The straight spar is more capable of development than the curved, which seems so final in its shape, and which, if much enlarged, would be unwieldly and awkward to stow. It requires little effort or imagination to increase or diminish the length of a short gaff. Indeed, in the seventeenth century we find leg-of-mutton sails, and from their little headsticks the gaff may have been developed.

Some gaffs, on the other hand, were longer, and to this day, in some of their vessels, the Dutch use a straight gaff, longer than the very short kind, but so short as to show its ancestry. It is particularly well seen in the steel barge-like craft known as *aaks* (fig. 159).

The larger *aaks* are ketches and the smaller have one mast. They have characteristic flaring bows. Three-quarters of the stem is nearly straight and vertical, but the upper end bends sharply forward. The vessels, either sloop or ketch-rigged, which Englishmen call galliots and their owners *tjalks* and *kuff tjalks*, also carry this short, straight gaff.

Gaff in Dutch is *gaffel* and means fork, the name being evidently taken from the resemblance of the jaws to the prongs of a pitchfork.

The half-sprit is very little used at the present time: I know of no English vessels with it but the Solent barges.[1]

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[1] Since writing this I have seen a large Channel barge so fitted in Southwick Canal, Nov. 1924. Her mizen was an ordinary gaffsail with a boom, but her mainsail was almost exactly like a seventeenth-century half spritsail with two pair of vangs.

In Italy, however, the small coaster known as a *navicello* is fitted with a spar, which though it carries the head of the mainsail, yet from its position on the mast seems more

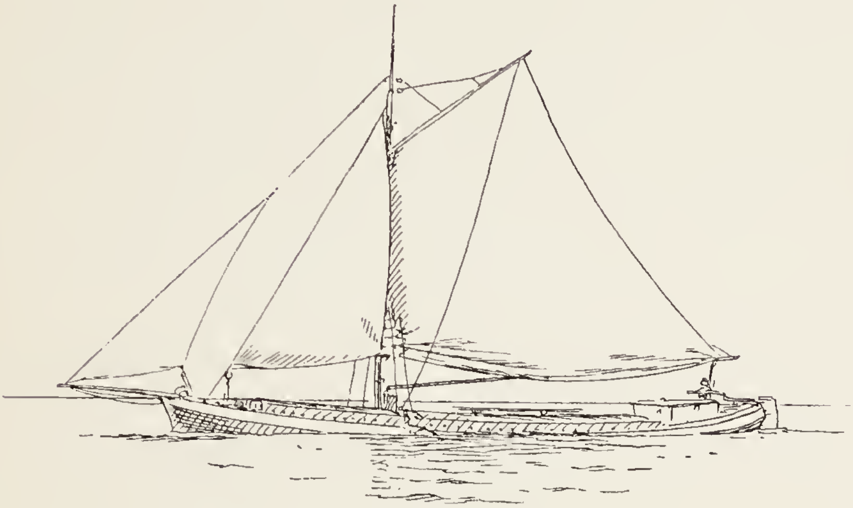

FIG. 159

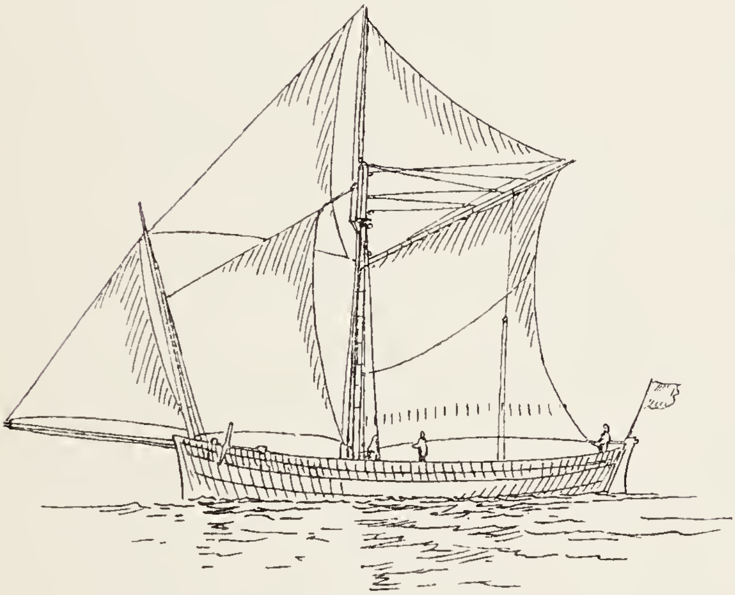

FIG. 160

nearly related to the true sprit than was the seventeenth-century half-sprit. I saw the rig first in 1917 from the windows of a troop train at Agay, in the south of France, and early in 1919 was able to study it minutely at Spezia (fig. 160).

The name *navicello* suggests a wide application, and because of this I made careful inquiries, but was told that it denoted only the vessels rigged in the peculiar way about to be described.

The hull varies in size and shape. Sometimes the stern is elliptical and sometimes pointed, with the rudder-head entirely outboard. They vary in length: the largest may be sixty-five feet long. They are decked, and have a long cargo hatch abaft the mainmast. Forward is a tiny forecastle-deck level with the rail. It covers the heel of the bowsprit. Wooden stocked anchors are sometimes used. These are more often found in the Mediterranean than the Channel, especially in small vessels.

The bowsprit runs on the starboard side of the stem. Whether or not it could be rigged-in I could not discover. It has no bobstay, but bowsprit shrouds are sometimes fitted.

Close abaft the stem, so close that it appears to spring from the stem, is a short forward raking foremast. The amount of rake varies slightly, but usually a perpendicular from the masthead would bisect the bowsprit near a third of its outboard length from the stem. Sometimes the point would be more than half-way out. For support masthead tackles are fitted one on each side, with the lower blocks on the catheads or the rail.

The mainmast is stepped a little before amidships. It rakes slightly aft. There are usually three hemp shrouds aside, set up with dead-eyes and lanyards to the rail. There is no mainstay.

The topmast is nearly as long as the lower mast. Its rigging is spread by rather short crosstrees. It has no stay.

The jib is almost an equilateral triangle and fills all the space between the foremast and bowsprit. It is set flying. There are no headstays. Before the wind, in a *navicello* with a foremast raking more than the ordinary, the jib has something the appearance, when seen far off, of the old spritsail set beneath a high steeving bowsprit. The foremast also recalls the ancient spar, call it foremast or bowsprit as you will, that in the early square-rigged ships of the Mediterranean carried the *artemon*—the sail they set in St. Paul's ship when they ran her ashore. It is well shown in a sculpture near the door of the leaning tower of Pisa, and in another by the door of the cathedral nearest to the tower.

On the foremast is set a sail that seen far off resembles a schooner's foresail; but it has no gaff and its peak is hoisted by a halyard rove through a block at the mainmast head, placed about half-way between the cap and the crosstrees. The sail is in effect a main staysail, though it is set flying. The luff of this foresail, for so it is called (*trinchetto*), occupies the lower three-quarters of the foremast. When furled the throat halyards are not touched and it is made up on the foremast.

The mainsail is set on a long gaff, or half-sprit, of which the jaws are hung at a point about two-thirds of the distance from the deck to the crosstrees (a little too high in the illustration). It is hoisted by main and peak halyards. The latter are fitted either with three blocks at the masthead, and with two and the standing part of the halyard on the gaff, or with two masthead blocks, and one block and the standing part on the gaff. Vangs are fitted between the aftermost peak halyard block and the standing part. The pendants are long, but not so long as those of a barge's vangs. The gaff is kept aloft. The luff of the mainsail is seized to mast-hoops, and the head traverses on the gaff with rings. These, of course, cannot run beyond the strop of the inner peak halyard-block, and thence to the outhaul-block at the end of the gaff the head of the sail is unsupported. There is an inhaul and a brail. One row of reef points is fitted, but not, I think, always.

The topsail is jib-headed. Its luff, in the craft I examined, was kept to the topmast by means of the ordinary strop and jackstay, but photographs show mast-hoops as an alternative method. The topsail sheet reeves through a block at the end of the gaff, and then through another at the side of the cap.

A sail, which though there is no main topmast stay one can but call a main topmast staysail, is set flying between the head of the foremast and the main topmast head.

A squaresail is sometimes carried on the mainmast, and is kept bent and furled beneath the yard in the usual Mediterranean fashion.

A little flagstaff was stepped upon the rudder-head in some of the craft I saw. This may have been a fitting peculiar to war time, when heraldry at sea becomes even more important than in peace.

The *navicello's* gaff may be a true descendant of the half-sprit. It shows no signs of influence from the ordinary lowering gaff. Other standing gaffs do show it.

At Port Said in 1918 little fore and aft schooners were often seen, fitted with standing gaffs (fig. 161). These, we may be sure from what we know of the development of the schooner rig, are not direct descendants of the half-sprit, but are throw-backs, so to speak, from the ordinary modern gaff. The standing gaff has certain advantages, and it is not surprising to find it re-discovered and in a modified form used in a schooner. The proper home of these little schooners I did not discover. One flew French colours, but may have been only temporarily under that flag. They are beautiful yacht-like craft, some with counters, and some with transom sterns, and with handsome schooner bows. They are all small, sixty feet or less in length. They carry bowsprits and jibbooms of immense length, and three head-sails on stays. The forestay comes to the end of the bowsprit. A dolphin striker is fitted.

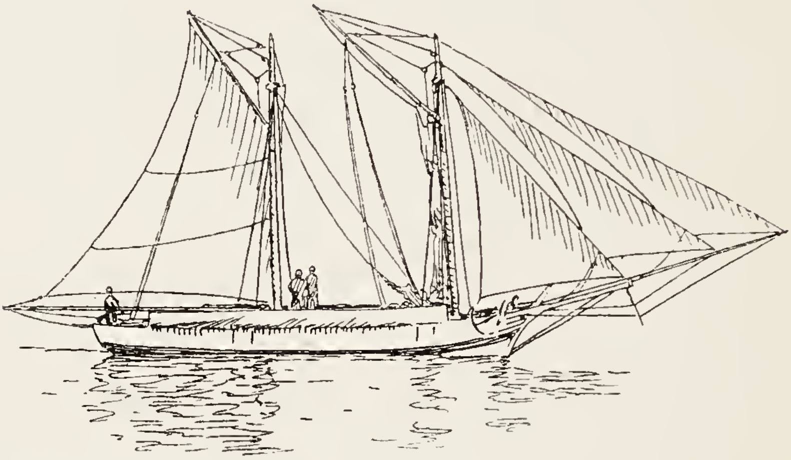

FIG. 161

The masts are stepped far apart, and are independent one of another. A main staysail is carried, and its tack is well abaft the foremast. There are no topmasts. The gaffs have throat and peak halyards and the heads of the sails run on rings. The lead of the head outhaul is peculiar. From the peak of the sail it leads either through a sheave hole or a block at the end of the gaff, and then through a block on the masthead midway between the two peak halyard blocks, so that it crosses the peak halyards and makes the gear aloft look complicated. The vangs have short pendants. Both foresail and mainsail have usually two pairs of brails. The foresail is loose-footed, and when set its clew reaches abaft the mainmast. The mainsail has a light boom projecting several feet over the stern. There is no topping lift. The foot outhaul of the mainsail is fitted with a block at the clew and another at the boom end. There is no traveller. The mainsheet block is also at the very end of the boom.

When coming into port the mainsail is sometimes hauled half out and sheeted clear of the boom.

A larger kind of schooner with standing gaffs is also seen at Port Said. She has tall pole-masts, and when seen from a distance appears to have topmasts.

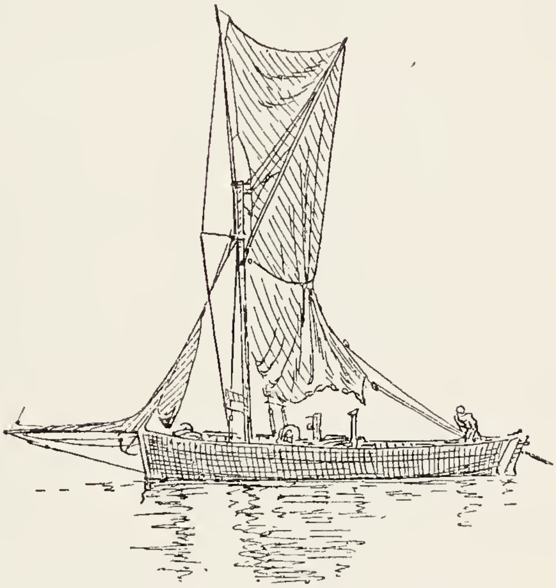
Fig. 162

Before turning to consider the ordinary gaffsail it is well to mention a few local and special forms which seem related to those just described.

The bawley has already appeared more than once in these pages (fig. 162). Bawleys are shrimpers used in the Thames and Medway, and nearly all belong either to Gravesend, Leigh, or Rochester. They are beamy deep-keeled boats about thirty-five feet long, and have straight stems and low transom sterns. They are decked. Their rig is that of a cutter without a boom: that is to say, their ordinary canvas consists of a jib, a staysail, a gaff mainsail, and a topsail. The Rochester bawleys are said to have the mast stepped farther forward than those of the Thames, but I have never been able to confirm the statement. The staysail is a narrow sail because of the height of the mast. The mainsail in some positions looks like that of a barge, and this barge-like appearance is enhanced by the length of the topmast and the shape of the topsail, which, however, usually lacks the barge's short topsail yard.

The gear is simple, but a few details are peculiar. The topmast stay, for instance, is not always placed at the masthead but often about a quarter of the way down the mast. The mainsheet is fitted like that of a barge, but with only one block on the leech of the sail. A single brail is fitted and leads to the throat. Like a barge, a bawley on occasion keeps her topsail set when her mainsail is brailed up. It is brailed when the shrimp trawl is down, and for a squall. In a steady hard wind it is reefed in the ordinary way. It is lowered at anchor. Vangs are not used.

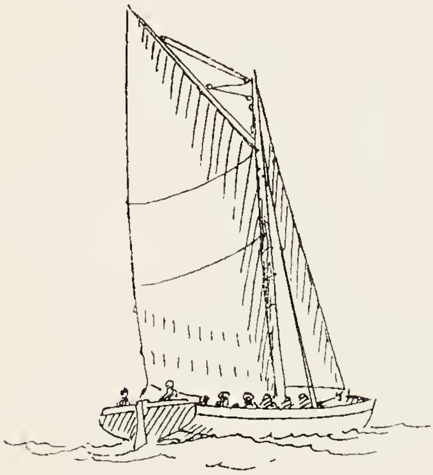
Fig. 163

Early in 1919 I saw a large bawley in the Medway that had tanned sails, a short topsail yard, no brail, and a small mizen-mast stepped on the port quarter. The mizen-mast carried no sail. At the same time a small sharp-sterned fishing boat belonging to Rochester often passed us. She had a cabin, and was rigged more or less like a bawley, but without a topmast. Her mast was farther forward. She was carvel built. She may have been a Peter boat. Peter boats once common in the Thames estuary are now very rare. I saw one other at Rochester, and a year or two before the war one used to lie at Putney; but neither of these was rigged. Peter boats were usually clinker built.

In the Navy the largest sailing boats, the pinnaces, and launches,[1] carry what is known as the de Horsey rig (fig. 163).

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[1] Pinnaces vary in length, but are generally above 32 feet and can be stowed inside a launch of 42 feet.

It is almost that of a bawley lacking bowsprit and topmast. Topmasts used to be carried in the days when sail was of more importance than it is now, but have been laid aside. The foresail is larger than that of a bawley and has two sheets, whereas the clew of a bawley's foresail runs on a horse. The mainsail has two brails. When these boats lie at a ship's lower boom the gaff is usually kept aloft and the sail brailed up. Launches are seldom sailed in the ordinary course of duty, but are generally towed by a steamboat. In the newer ships they are fitted with motors.

The sail of a Norfolk wherry somewhat resembles the mainsail of a bawley but has no brails, and the gaff is always lowered when the wherry is not under way (fig. 164).

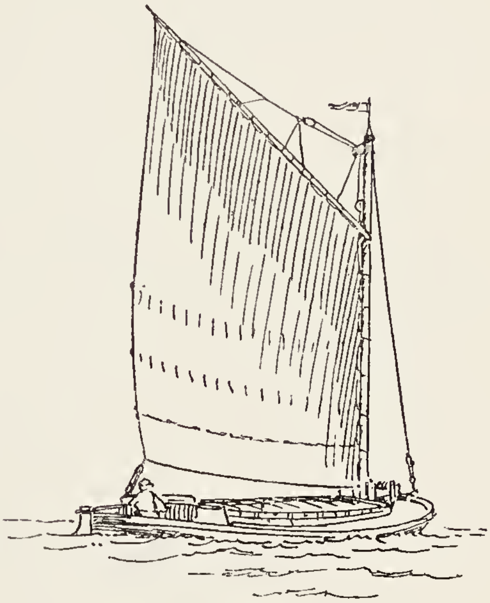

Fig. 164

The wherry was mentioned in Chapter II in contrast with the Humber keel. The keel is carvel built, flat-bottomed, bluff, and square rigged. The wherry is clinker built, has a rather sharp midship section, fine lines forward and aft, and is fore and aft rigged with a single gaffsail.

The mast is well forward before the long hatch. It is a very stout spar and has no standing rigging, but a forestay fitted with a tackle for raising and lowering it. It is pivoted in a tabernacle, and on its heel which is below deck is an iron counterpoise weighing, it is said, as much as two tons.

The long gaff is carried more nearly horizontal than most gaffsails at an angle difficult to draw correctly. It is hoisted by a single halyard rove and fitted in a complicated manner.[1] The fall after passing through a sheave in the mast comes to a winch, placed just before the mast on two uprights. The first effect of letting go the halyard is to drop the peak, and the gaff comes down nearly horizontal. A single rope, called a ‘ gaff line ’, is fitted to the end of the gaff, and serves to control it when the sail is being hoisted or lowered. An ordinary parrel with trucks is fitted to the jaws. The sail is heavily dressed with a composition that makes it nearly black. It runs on the mast with hoops or sometimes with parrels. At its foot is a bonnet, and on the course, to use the word in a manner agreeable to its strict original sense,[1] a row or two rows of reef points. The only other gear is the sheet.

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[1] The halyard leads, from forward, over a sheave in the mast, then through the block near the jaws of the gaff, then through the double block at the masthead, then through the block connected with the middle and end of the gaff by bridles, then back, through the double block, to the gaff near the jaws where the end is made fast. The lead varies slightly. Sometimes the end is between the inner gaff block and the jaws.

Wherries are beautiful vessels and so much in keeping with their surroundings that they seem like natural growths.

Their decoration is of the simplest. A few touches of colour here and there set off the black topsides. The wherries of the Bure are distinguished by a white semicircle painted as though folded round the stem just below the gunwale, with the curved part downward. It gives them a handsome, characteristic appearance. The ornamental tapering masthead bears a vane with a device which sometimes represents a woman in a Welsh hat. The draught is noted by curious underlined Roman figures carved on the stem. Wherries are very close winded, and in light ‘ scant ’ airs they creep along the lee bank of the river, luffing a little and then falling off and almost touching the shore, but never quite losing way. Often the quant is used to keep them off. The lower end of a quant differs from that of the keelmen's stower, and carries a kind of wooden shoulder to prevent its sinking into the mud. So many people visit the rivers and broads of Norfolk and Suffolk for pleasure that the word ‘ quant ’ is ceasing to be local and is replacing the more general term ‘ setting pole ’.

Wherries are cleverly handled. When the mast has to be lowered to go under a bridge five things have to be done : the sail must be lowered, the parrel cast off and the gaff moved to one side, the halyard unshipped, a hatch cover taken off to allow the heel of the mast to come up, and lastly the forestay purchase must be eased.

When a wherry is seen approaching a bridge the unaccustomed onlooker is apt to think that her crew are asleep, and he begins to grow anxious. Presently a man goes forward without haste. Nothing happens. Then the peak droops and the sail comes down. The helmsman leaves his tiller and tends the leech, and sees that the sail lies properly on the hatches. Then he tugs at the gaff and pulls its jaws clear of the mast. By this time the bridge is very close and the onlooker is inclined to think that the manœuvre has been cut too fine after all and that the mast will not be got down in time. It looks very upright and solid ; but a pull starts it and it sinks without effort. If the wind is fair enough way will be carried to shoot the bridge ; if not a quant is got out. The mast is raised with even less trouble. A man gives it a little pat and it stands up. So it sometimes appears.

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[1] See p. 65.

One good quality the wherries have not—seaworthiness. It is said that in bad weather they dare not even cross Breydon Water that lies behind Yarmouth.

Other boomless gaffsails are used, but since they do not resemble the half spritsail so nearly as those just described they will be mentioned later on in connexion with sails to which they seem to be more nearly related.

CUTTERS AND SLOOPS

The gaffsail in its usual modern form, fitted with a boom and a moderately long gaff, is probably the commonest and most widespread sail in the world. For the very smallest boats it is not suitable, chiefly because, unless the mast is stepped very far forward, a jib or foresail is required for satisfactory handling, and partly because of the necessity for either two halyards or a single complicated one. For boats larger than the smallest it is a very popular sail, and in nearly all English ports, and in many French, it is found rivalling the characteristic local types. The names are much confused. For instance at Dunkirk there are small fishing-boats with a gaff mainsail, a foresail, and a small jib on a steeving bowsprit. A fisherman of the port told me that they were called *Chassemarées*, a name that I and many others had thought denoted a three-masted lugger. Most might be described as cutters, but the word cutter, like so many other terms that have come to be applied to particular rigs, has varied and is varying in significance.

At the present time, or let us say thirty years ago, a cutter was a vessel rigged with a gaff mainsail, a stay foresail, and a jib set flying on a running bowsprit, a bowsprit, that is, which could be run in and out as required, and which lay nearly horizontal. A topmast completed the rig but was not essential (figs. 169 and 170).

Now, in the middle of the eighteenth century a vessel so rigged was called indifferently a cutter or a sloop. Falconer [1] lets the same picture serve for both, and it is difficult to tell from it whether the bowsprit is a running or a standing spar. How exactly a cutter differed from a sloop he does not say, probably because he did not know. There is some reason for supposing that for a time the word 'cutter' implied a clinker-built hull, but whatever its exact meaning, an eighteenth-century man would have understood the rig best by being told that it was the same as that of a sloop. Gradually, however, a difference arose in the application of the terms and the bowsprit became the determining feature. A running bowsprit denoted a cutter and a standing bowsprit a sloop. Steel in his *Seamanship* of 1794 does not mention the distinction, but merely describes the sloop as rigged like a cutter 'though much lighter'. Such books as those of Steel and Falconer may, however, always be regarded as describing what was usual twenty years before their publication; for it is natural that their authors should record what was usual during the active part of their lives, and should hesitate to include what must have seemed to them new-fangled misapplications.

J. J. Moore in his *Marine Dictionary* of 1801 makes the nature of the bowsprit the determining feature. An officer who went to sea in the Merchant Service in 1857, when the old traditions were undimmed, told me that he distinguished the rigs in the same way.

As usual confusion has crept in. In America what Englishmen call cutters are called sloops, probably because the sloop rig was at one time the more popular and the need for two names not felt. In England the word sloop has almost dropped out of use, save amongst yachtsmen who, only half understanding its former meaning, have revived it for the numerous small craft that carry a single headsail.[2]

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[1] *Marine Dictionary*, 1769.

[2] The reason for this further change in significance—cutter with two head-

True sloops with unmistakable steeving standing bowsprits are very rare in home waters. I saw one in 1906 called the *Boy Frank* in Portsmouth Harbour. What her rig was officially I could not discover. She was not in Lloyd's List. Amunsden's ship, the *Gjoa*, in which he made the North-West Passage, was described in the English papers as a sloop, and she was one according to the old definition; but in the list of the Bureau Veritas for 1907 she is called a *Jagt*. It is doubtful whether the word sloop is used at all[1] by English seamen at the present time, but for convenience in these pages it denotes, unless otherwise stated, a vessel with one mast carrying a gaff mainsail, and with a standing and steeving[2] bowsprit.

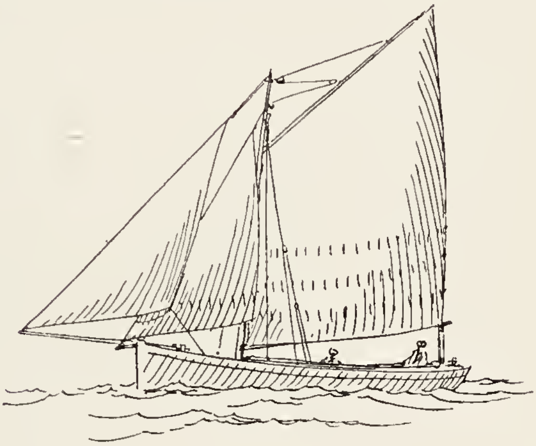

FIG. 165

Most of the little boats rigged with gaff sails about our coasts, such as the cutter-rigged fishermen that frequent the neighbourhood of the Calshot Spit lightship, have few noteworthy features, but peculiarities are found here and there. For instance, the Itchen ferry boats have the forestay set upon a short iron bumkin projecting beyond the stem, and carry a bowsprit and jib like an ordinary cutter (fig. 165).

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sails, sloop with one—is easy to account for. When a standing bowsprit was fitted in American sloops the forestay was set up, not to the stem, as it is when there is a running bowsprit, or none at all, but to the bowsprit end, and on it ran the jib, the only headsail filling the space occupied in a cutter by a jib and foresail. When a sloop requires more than one headsail she must rig a jibboom projecting beyond the bowsprit to set it on. Now in England a sloop with bowsprit and jibboom is hardly ever seen: when two headsails are required the cutter rig is preferred, and so to English eyes the difference was the number of headsails. Hence when a rig with a single headsail and no bowsprit became popular, the fact that it was the cutter rig truncated was overlooked, and the rig is often described as that of a sloop. The old distinction is made even more remote by the bowsprit of the modern cutter being fixed and no longer a running spar.

[1] Except in its naval sense. It is, however, used in Lloyd's List, while cutter is not.

[2] The horizontal fixed bowsprits of modern yachts are not considered true standing bowsprits.

These boats are short and beamy with straight stems and transom sterns.

At Great Yarmouth the shrimpers are half-decked boats, clinker-built, with transom sterns (fig. 166). The deck is raised a strake above the rest of the gunwale, and comes farther aft on each side than amidships. The mast is stepped at the point of the V so formed. One of these boats which I examined in 1915 was 20 feet on the keel, 21 ft. 3 in. between the perpendiculars, and 8 ft. 2 in. in beam ; so her owner told me. The rig consists of a large jib set on a long fixed bowsprit devoid of rigging, and a gaff mainsail with a boom. The boom projects beyond the mast, generally but not always on the starboard side of it, and is held in place by a line from the mast which passed downwards over a notch at the boom end and is made fast to a cleat beneath it. The boom is in fact a kind of sprit, and is well above the foot of the sail, especially at the tack which is lower than the clew. A topsail is carried with a yard and jackyard which stand vertical or even rake forward just as in the cutter-rigged fishermen of Poole.[1]

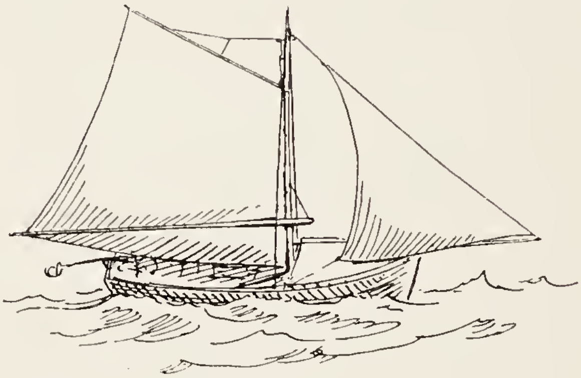

Fig. 166

The Yarmouth shrimpers are locally known as dandies. Now a dandy is usually a two-master, and the probable explanation for the name being applied to these single-masted craft is a very pretty example of how a change of meaning may be traced. It will be treated later with the dandy rig.

Certain other craft of Yarmouth, fishing-boats, larger than the dandies and called wolders after a fishful region called the Wold, are rigged as luggers when they go for mackerel, but nearly as dandies when they trawl for soles, with this difference that their booms do not project beyond the mast. Their rig is almost the same as that of the more old-fashioned yachts on the inland waters behind the town. The yachts are called cutters despite their single head sail and standing, though not steeving, bowsprit.

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[1] These were flourishing in 1913 and doubtless still remain.

The oyster smacks of Burnham and Brightlingsea, decked craft with straight stems and counters, about the size of a ten ton yacht, are cutter-rigged without topmasts, but have a little stump where the topmast would be. These were plentiful in 1913 and there is less likelihood of their adopting motors than of most fishing-boats.

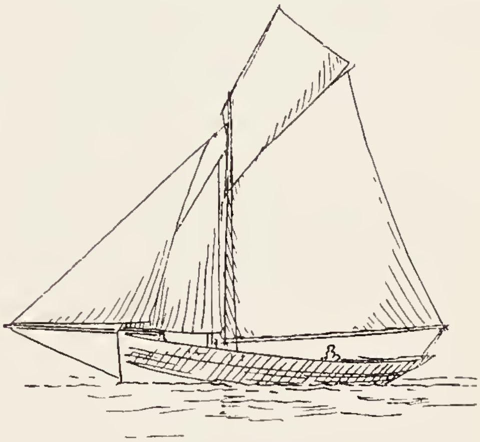

Fig. 167

The French use some smart pole-masted cutter-rigged fishing-boats (fig. 167). Several[1] belonging to Camaret used to frequent Milford Haven in 1916. They had straight stems and high bows, and the counter was short, the mast well aft, and since the main boom was all in-board, the mainsail was rather narrow. It was laced to the boom and had roller reefing gear. A small rather ugly yard topsail was carried. At the stern was an ensign staff stepped at almost the same angle as the gaff. The practice of flying colours at the gaff is almost extinct in fore and aft rigged vessels.

The complete cutter rig with topmast is becoming rare except for yachts. It is used in some of the western rivers and harbours for inland local trade. Rather dingy craft of this kind with the full cutter rig, their booms projecting several feet beyond the transom, may be seen any day in the Hamoaze (fig. 168). Their graceful sails contrast with their undistinguished hulls, as though a dress from Paris were worn above elastic-sided boots.

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[1] One had a little mizen-mast.

In 1915 I saw a handsome smack so rigged at Harwich (fig. 169), and the next year at Haverfordwest a very dumpy trader that was a cutter (fig. 170); but the smaller kind of Brixham trawlers called mumble bees is the only numerous class of vessel I know that still retains the rig in its entirety.

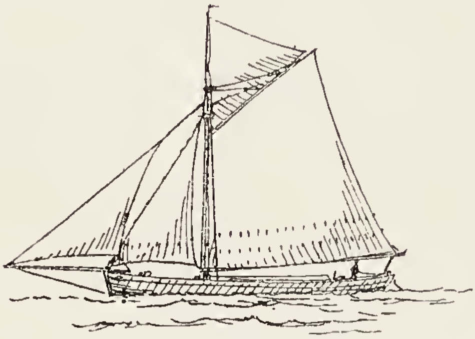

Fig. 168

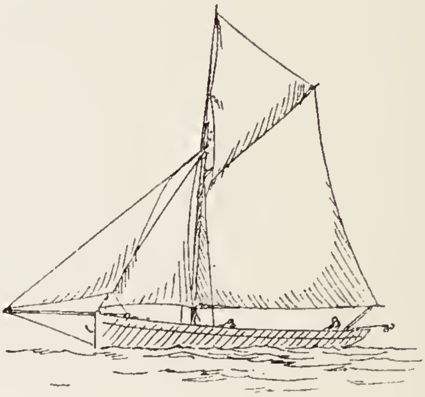

Fig. 169

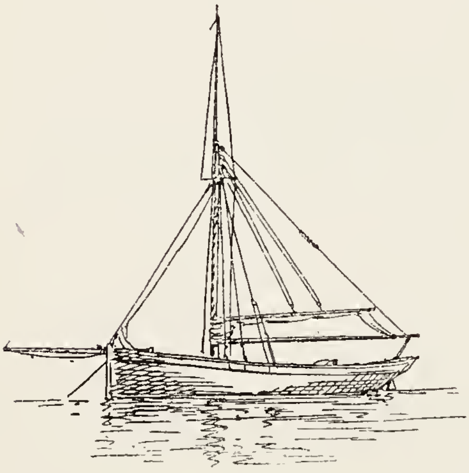

Fig. 170

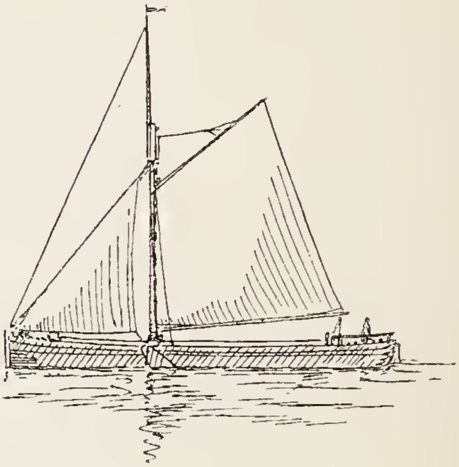

Fig. 171

A very simple rig is that of the Humber sloop (fig. 171). It consists of a foresail and a gaff mainsail. The name sloop is local. Sometimes a topmast is fitted, but much more usually there is none, and the masthead tapers and is surmounted by an ornamental vane. As in the keels wire is much used and there are many winches. The gaff is about two-thirds of the length of the boom. The end of the boom does not reach beyond the after coaming of the hatch. There is no bowsprit. The hull is the same as that of the keel except that a few sloops are larger. Like the keels many of the sloops are well kept and show patches of brilliant colour. They frequent the lower waters of the Humber more than the keels do, and I was told, but not by a sailor, that there was a sloop belonging to Grimsby still trading with London, although she was seventy years old.

At Salonika in 1918 I saw a vessel that at first sight appeared to be an ordinary cutter, but which had her forestay set up on her bowsprit a few feet beyond the stem. Though nearly horizontal the bowsprit was presumably a standing spar, but we were never near enough to see (fig. 172).

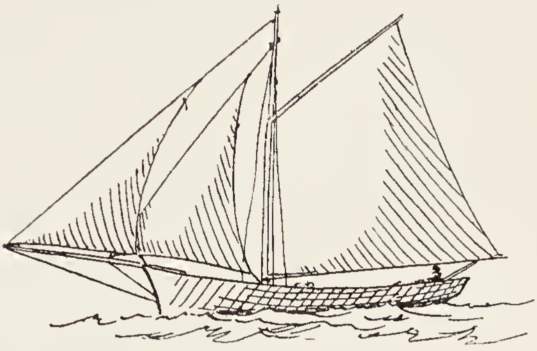
Fig. 172

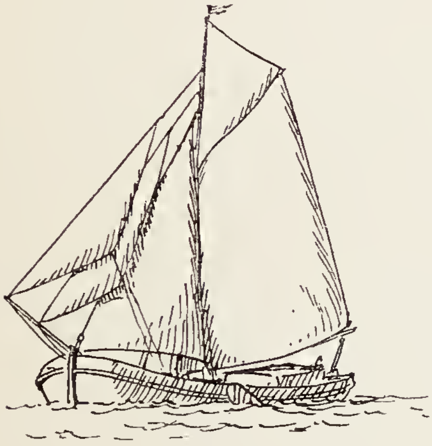
Fig. 173

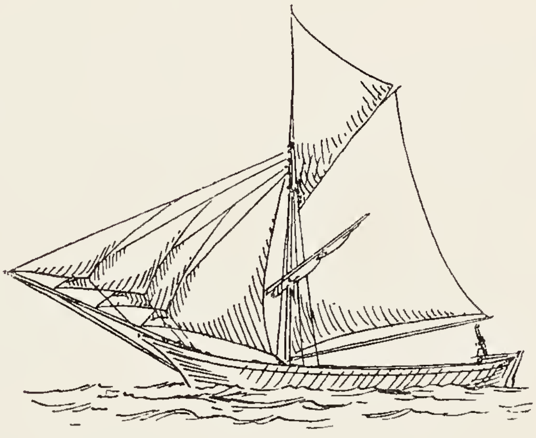
Fig. 174

The sloop-rigged Dutch galliots have been mentioned above. They usually carry two jibs as well as a foresail (fig. 173).

The sloop rig is found in the Mediterranean. In 1916 I saw an Italian vessel so rigged near Malta (fig. 174). She was a handsome craft with a good sheer, an overhanging stem and a pointed, slightly-raked stern. She carried a topmast and a jib-headed topsail. Her bowsprit had a great steeve and she carried three jibs besides her foresail, all on stays leading from the lower masthead.

The flying jib appeared to be set on a short jibboom, but I could not be sure that it was not a prolongation of the bowsprit. It had a separate bobstay or martingale, but there was no dolphin striker. She carried a squaresail furled beneath its yard.

Craft of this kind are often to be seen in the Grand Harbour at Malta.

Certain fishing-boats of the River Bug in Russia carry an unusual form of gaffsail. We passed several one day late in 1918, but steamed by too quickly for all the details to be grasped. They were rather narrow open boats, perhaps eighteen feet long with sloping transoms and slightly rounded raking stems (fig. 175).

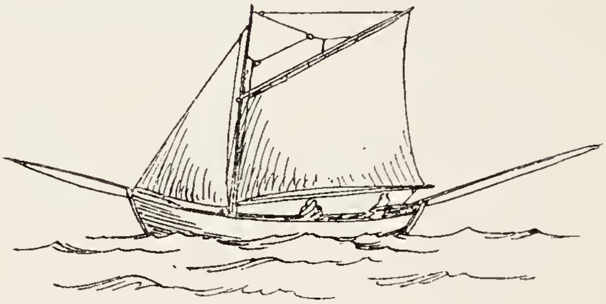

Fig. 175

The rig consisted of a narrow foresail and a mainsail with a long, thin gaff, and a boom of the same length. The head of the sail was bent very loosely to the gaff. It was hoisted by a single halyard with two blocks on the mast and one block and the standing part on the gaff. The block on the mast was fitted with a span. The fore end of the gaff seemed to be permanently fixed to the mast, not as far as could be made out, with jaws. Some of the boats were under sail with a fishing rod sticking out at each end twelve feet or more, and others were lying fishing with sails stowed. In these the peak of the mainsail was lowered till the end of the gaff rested in the stern and the boom was gathered up with the sail close beneath the gaff.

DANDIES AND KETCHES

The nomenclature of the smaller two-masted vessels is as much confused as it is of those with one mast, and for the same reason: namely that the name usually denotes occupation and not rig. Thus a Lowestoft trawler in Lloyd's List would probably be called a dandy; locally she is a smack or trawler simply, and if converted into a yacht she would certainly appear in a club list as a ketch.

The name dandy seems to have been applied originally to cutters which sported a little jigger-mast. The craft so fitted were called cutters but were described as dandy-rigged, as though the little mast gave an air, like an eyeglass or a button-hole. The name soon became applied to any small vessel with a gaff mainsail and a mizen. Some people gave it a more restricted meaning, holding that it denoted such features as a boomless mainsail and a leg-of-mutton mizen, but such limited use was never general.

The Yarmouth dandies, as we have seen, have but one mast. The most probable explanation of their name is that formerly they had two.

At first sight this does not seem likely; their rig so much resembles that of the 'cutters' of the inland waters and their booms project so far over the stern. The curious method of fitting the main boom is, however, suggestive. It has a temporary and a makeshift look as though the sail had been originally loose-footed.

In Gorleston Churchyard I was shown a tombstone of the early 'seventies' recording the death of a man who fell overboard from his fishing dandy and was drowned. At the head of the stone is a sculptured presentment of the dandy in tow. If examined closely the relief, which looks almost absurd at first sight, is found to have been made with an attempt at accuracy. It shows a clinker-built boat with an unmistakable boomless mainsail and a mizen of some kind. The sails are furled and the gaff rests in a crutch. The mizen is furled to a topped-up spar. Fifty years ago, then, a dandy seems to have had no main boom and to have carried a mizen.

If the dandies of the present time are developed from those of forty years ago, and have not merely replaced them and succeeded to the title, the process may well have been somewhat as follows. The old loose-footed mainsail was certainly boomed out before the wind with a boathook or anything that served. The practice is nearly universal with small loose-footed gaffsails and lugs. A larger mainsail may have been thought desirable and some one have hit on the notion of using a boom at all points of sailing, and by its aid carrying a larger mainsail with its clew overlapping the mizen. The obvious disadvantage could be met by just such a fitting at the fore end of the boom as the modern dandies use. Easing the line which confines the boom would allow it to come forward enough for its after end to clear the mizen-mast. Further development of the mainsail would lead to the disuse of the mizen, so producing the rig as it is at present. Simple conservatism might retain the old method of fitting the boom.

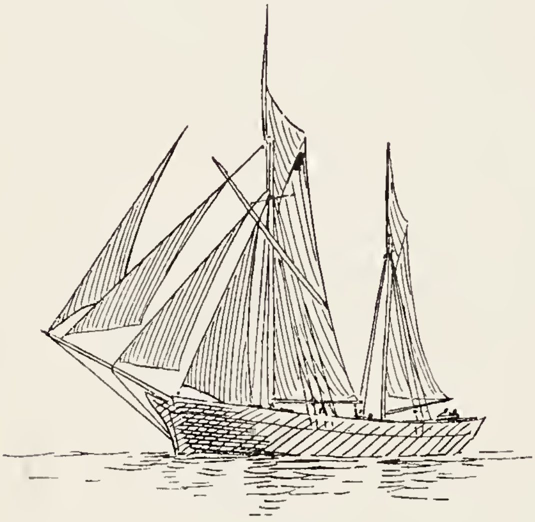

Fig. 175 A

I saw one dandy with a mizen, a little triangular sail, but whether she was a survival or a throwback I could not tell.

The ketch rig at the present day is generally held to consist essentially of two masts, a main and mizen, bearing gaffsails, the mizen-mast being well in-board, before the rudder-head (fig. 175 A). In the seventeenth and eighteenth centuries a ketch was rigged like a ship or bark without a foremast. The change of meaning probably arose from the gradual substitution of fore and aft for square sails in traders. In the Navy ketches were given up early in the nineteenth century and the name went out of use.

Many vessels come under the usual modern definition of a ketch, but would never be so called by the men that form their crews; for example, the Lowestoft trawlers mentioned above (fig. 181). Seamen in so far as they use the word at all apply it almost exclusively to trading craft.

Now a few cargo-carrying ketches have running bowsprits, for example, barges such as are used in the Orwell or the Solent, and a few little local craft that may be met in most of our larger harbours and estuaries, Chichester Harbour, for instance, and Milford Haven;[1] but nearly all the larger truly sea-going trading ketches have standing bowsprits, and all ketch-rigged fishermen have running bowsprits. So that were not sailing vessels doomed to speedy extinction, it is highly probable that the standing bowsprit would come to distinguish the ketch as formerly it did the sloop. It would greatly astonish a modern seaman to be told that the form of bowsprit had anything to do with the ketch-rig, and its connexion is only incidental. Nevertheless, a connexion is coming to exist, and it suggests how the distinction between sloop and cutter may have arisen—a distinction which in Falconer's time would probably have seemed as unreal as that which I have shown to be arising now between ketch and dandy will be thought by many to-day.

The term yawl, meaning a particular rig, is used chiefly by yachtsmen who apply it to yachts which set a gaff mainsail and a little mizen of whatever shape abaft the rudder-head and sheeted to a bumkin.[2] I have heard an elderly coasting skipper who had sailed in yachts maintain that the bumkin made the yawl, and that the position or size of the mizen-mast did not matter. He maintained it positively as an absolute definition founded on the nature of things. All these names which change their meanings almost with every generation seem fixed to their users, who seldom realise that though the names remain the things they stand for do not.

Several varieties of the dandy rig were met during the war. The Harwich pilot boats in 1915 were rigged with a boomless mainsail and a leg-of-mutton mizen. The mizen-mast was stepped in the counter and raked aft. The sail was sheeted to a boom, and there was no bumkin. There was a main topmast with a long masthead above the stay whereon to display the pilot's flag. One of these vessels was ninety years old, so I was told. She had a motor. She had a straight stem and was about the size of a forty ton yacht (fig. 176).

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[1] Some little ketch-rigged craft of this kind I saw in Milford Haven in 1916 had unusually tall main topsails with a short yard.

[2] The famous Bristol Channel boats which were replaced by steamers shortly before the war were locally known as yawls but were cutter-rigged. I last saw one in 1911 at Dartmouth. Similarly certain cutter-rigged Boulogne fishermen are, or used to be, called *quaiches*. *Quaiche* is French for ketch.

In 1916 I saw several craft in the Western Mediterranean that might fairly be called yawl rigged (fig. 177). They differed in small details, but all had two jibs at least on a standing bowsprit besides a foresail, the usual Mediterranean squaresail, a gaff mainsail with a boom, a topmast, and a jib-headed topsail and, right aft, in the pointed stern, a little gaff mizen, loose-footed, and sheeted to a bumkin. One had a high projecting stem, and one which we passed near Malta a sheer that almost equalled that of the Eastern Mediterranean craft.

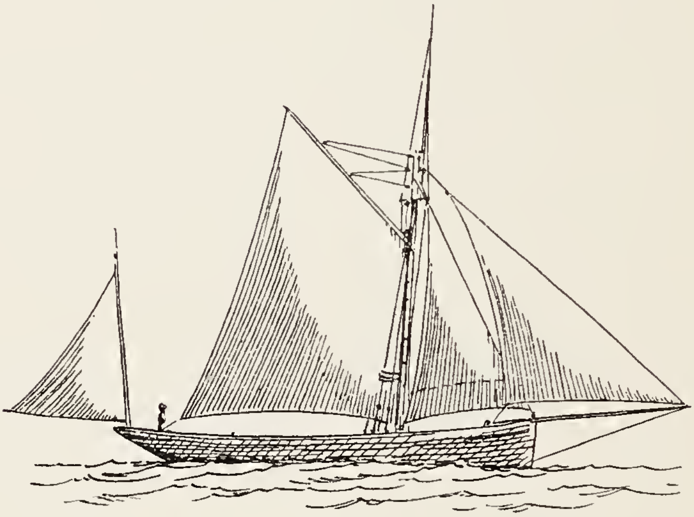

FIG. 176

In 1915 I saw a Frenchman in Portsmouth Harbour rigged like a cutter with the addition of a small lug mizen on a raking mast stepped in the counter, far enough in-board for the sail to be sheeted to the stern (fig. 178). She was a seaworthy-looking craft of about fifty tons, with a straight stem and a high bow. I could not make out that the name of her port was written on her mainsail or bulwarks or see any number or other sign of her being a fisherman. She was almost certainly a trader.

In the same year we often met Dutch drifters in the North Sea hailing generally from Vlardingen. They were stoutly built, full-bowed vessels with short counters, and were pole-masted with boomless mainsails sometimes so small as to be little more than a trysail (fig. 179). One had a main bonnet. The mainsail did not run with hoops but with a lacing fitted with trucks like a parrel.

A large jib was often set and a small yard topsail.

The mizen-mast was before the rudder-head. It raked aft. The mizen was a gaffsail with a boom which was usually carried at an angle more acute than the gaff. One had her mizen boom horizontal, and set a jib-headed mizen topsail. A mizen staysail was often carried.

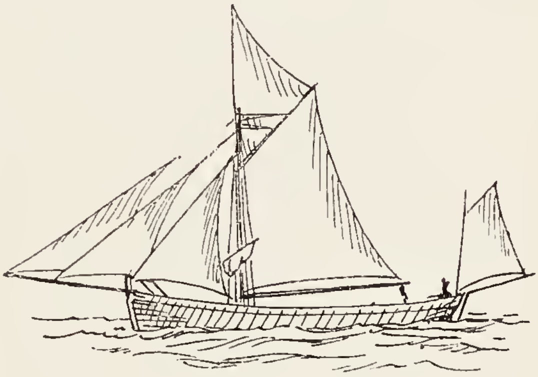

Fig. 177

These drifters were officially known by our naval authorities as luggers. I inquired why, and was told that so[1] they were called in their own country.

It may be that formerly they were rigged with lugsails, and that the name has remained in spite of the change to gaffsails, just as the name ketch has survived their substitution for square canvas; but on the other hand it must not be forgotten that the term lug has been occasionally used for a boomless gaffsail. T. R. Blanckley in his *Naval Expositor* of 1750 describes a shallop as: ‘a small Light vessel, with only a small Main and Fore-mast, and Lugg-sails to haul up and let down on Occasion.’ An accompanying picture shows a boat rigged as a fore and aft schooner but lacking booms and headsails. The mentioning that the sails could be hoisted and lowered was probably to distinguish them from half-sprit sails which resembled them in shape, but which were kept aloft.

In quite recent years the foresail of a schooner was sometimes called a lug when it had no boom, and the term perhaps survives yet.[1]

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[1] i. e. *loggers*.

It is therefore possible to justify the name lugger for these Dutch drifters even with their present dandy rig.[2]

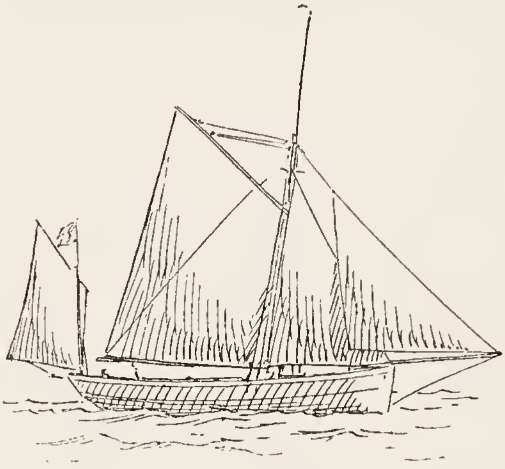

Fig. 178

To inquire into the reason for the application of names and their origins is not purely academic, because to do so often gives an insight into the working of men's minds and helps to show what it was that in any generation was held essential and what incidental. What is pedantic in the historian and nautical comparative anatomist is to insist rigidly on names being right or wrong. Right use is only what is usual among seamen. They adapt the names to the things they handle, and landsmen should accept them even though they seem incorrect. They can nearly always be justified.

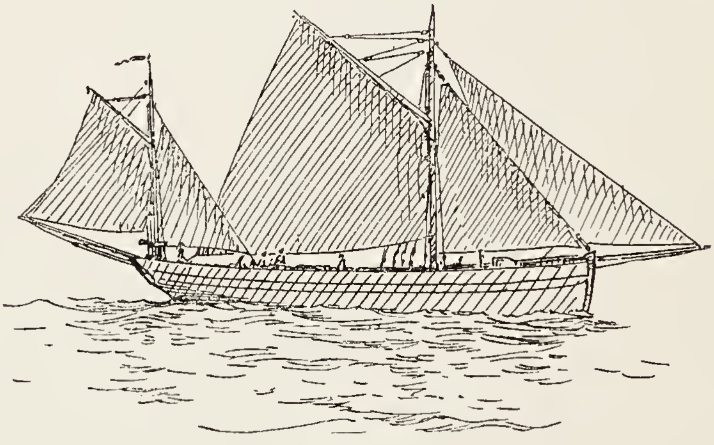

Fig. 179

A few years before the war many dandy-rigged fishing-vessels belonged to Boulogne, and I have no doubt that they are not yet entirely given up, though it is not unlikely that they may have taken to motors.

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[1] *The Corinthian Yachtsman*, by Tyrrel E. Biddle, 1881, p. 62.

[2] The *N.E.D.* suggests that the name of Dutch luggers denotes not their rig but that they fish.

They were great black craft, bigger than any of our sailing fishing-boats and were called *dundis*, which must be the French for dandies.

They had a great rise forward, giving ten feet or more freeboard at the bows. They had counter sterns.

The mainmast was short and well forward. There was no topmast. The bowsprit was very long, between two-thirds and three-quarters the length of the ship. The mizen-mast was nearly as tall as the mainmast and raked forward. It had a long masthead.

The sails carried were a jib, the halyards of which led to the masthead unusually far from the fore halyards, a foresail sheeted well abaft the main rigging, a boomless mainsail on a long gaff, and above it a square-headed topsail.

The mizen was short in the luff and was fitted with a deep bonnet in which were eyelet holes for a reef lacing. The mizen gaff was very long and the jaws hung low. There was a boom. A jib-headed mizen topsail was carried, and I think at times a square-headed one, also a mizen staysail and a mizen topmast staysail.[1]

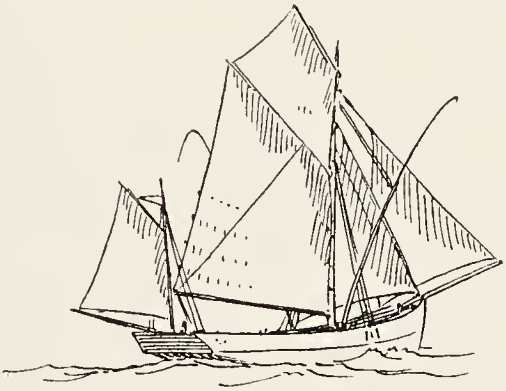
Fig. 180

Some of the Penzance fishing-boats are dandy-rigged with a boom to the mizen but none to the mainsail.

The Ostend fishermen are rigged much as the Dutch drifters but with a main boom. In the autumn of 1914 a number of these vessels came to Lowestoft crowded with refugees. They could be distinguished from the local trawlers almost as soon as they showed above the horizon, chiefly by the wider space between the leech of the mainsail and the mizen-mast.

In the neighbourhood of Ushant the tunny fishers of Groix are often to be met, or were in 1916 (fig. 180). They were painted dark green, and had high bows and short counters. They were pole-masted and carried a gaff mainsail with a boom and a small yard topsail. The bowsprit was steeving. The mizen-mast was stepped before the rudder-head. The sail was loose-footed and sheeted to a bumkin.

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[1] There was no mizen topmast.

On either side of the mainmast was a boom topped to an angle of about forty-five, and beyond the boom projected a fishing rod.

The Lowestoft trawlers are well known (fig. 181). There was a large fleet of them when war broke out, but many were sunk by mines and submarines. They have straight stems and counters and are painted black. Like all English and Scotch-decked fishermen they are fitted with a steam capstan. In 1914 a native said to me: 'They may talk about Belgium, but I can remember the riots in Lowestoft when the steam capstan was introduced.' I gathered that this was about 1880.

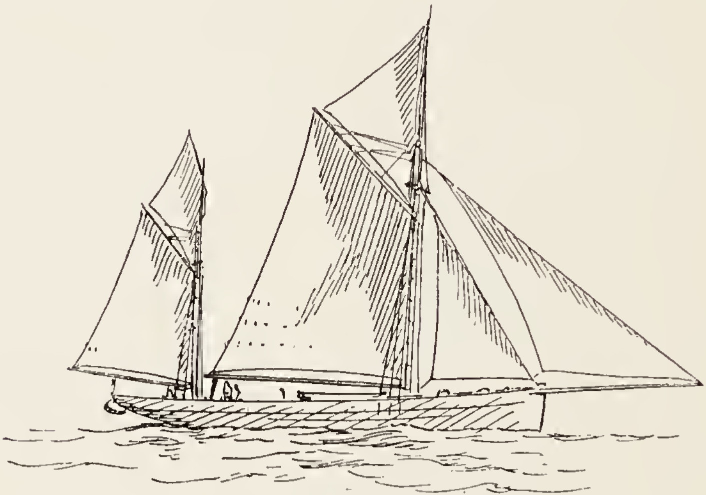

Fig. 181

The rig is that of a ketch with a running bowsprit. Both mainsail and mizen have booms. The gaffs are as long as their respective booms and the jaws of the mizen are hung rather low. The mizen-mast rakes forward and is nearly as tall as the main lower mast.

In summer a long topmast is carried and a yard topsail, in winter a short topmast and a jib-header. A mizen topsail is also carried and sometimes has a yard. All the sails are tanned. Angulated mainsails are often used instead for sails with the cloths vertical.

Grimsby trawlers had been displaced by steamers for years before the war, but in 1915 a few put to sea again. They resembled the Lowestoftmen, but looked rather fuller in the bows.

The Brixham trawlers are about the same size as those of Lowestoft (fig. 182). A skipper told me that the usual dimensions were 62 feet long on the keel, 20 feet in beam, and 9 feet in depth from keelson to deck beams. Some, but not all, have a remarkable broken sheer. The line of the rail seems to drop suddenly at the quarters.

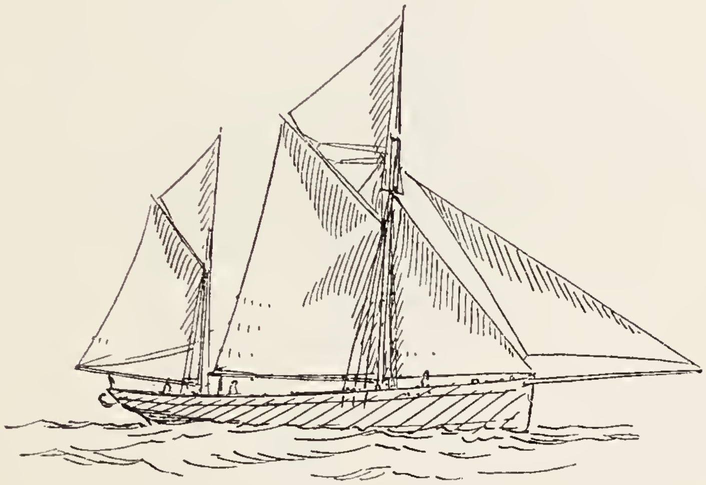

FIG. 182

The rig is the same as that of the Lowestoft trawlers, but the mainmast is often stepped farther aft, and the resulting difference in the angle of the forestay is striking.

A few trawlers like those of Brixham belong to Milford, or did in 1916.

The Ramsgate trawlers are much like the Lowestoftmen but are smaller and their sails are dressed with a light yellow mixture (fig. 183).

The ketch rig with a standing bowsprit is one of the most popular for small traders about our coasts (fig. 175, 175A). It is the easiest of all rigs to handle except perhaps that of the spritsail barge. Many ketches are flat-bottomed and carry lee-boards. Such are generally called barges. Ketches usually carry a squaresail yard. As a rule they have three jibs besides the foresail. The flying jib runs on the topmast stay, but its halyards generally lead to the lower masthead.

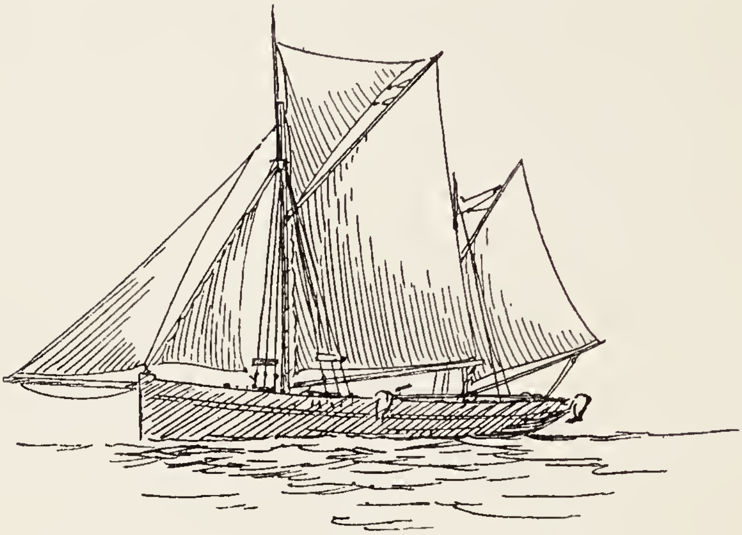

Fig. 183

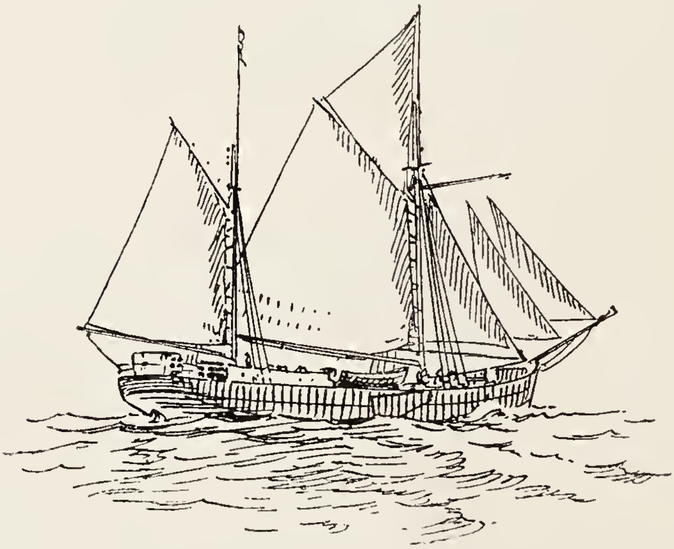

Fig. 184

The upper part of the luff has a loose lacing to the stay, and from where this lacing begins to the halyard the head of the sail curves aft in a way seldom seen in any other rig[1] (fig. 86).

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[1] I have a photograph taken during the war of a brigantine with the halyards of her outermost jib—flying jib it would probably be called—led to

English ketches very seldom carry a mizen topmast, but Scandinavian ketches often do and sometimes Dutchmen (fig. 184). I saw both in 1915. Many Dutch ketches, both galliots and those of more ordinary build, are of steel. They carry lee-boards.

A ketch with a tall mizen-mast fitted with a topmast approaches very nearly the rig of a fore and aft schooner, especially in the form found in some Dutch craft with widely separated masts (fig. 185). In consequence there is some confusion of nomenclature, as there always is when the aberrant forms of two rigs approach one another. For some reason the word schooner comes easier to an Englishman than ketch, and there is a tendency so to call a ketch when her mizen-mast is more than usually developed.

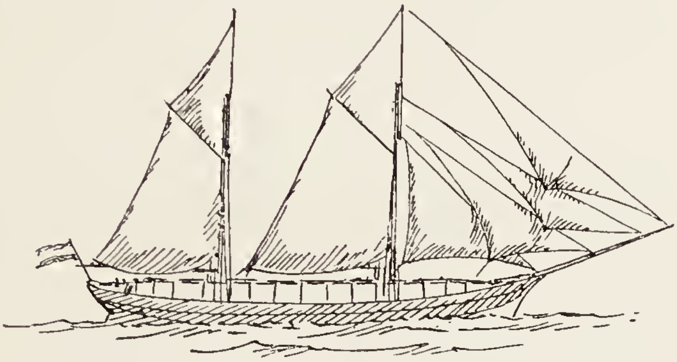

FIG. 185

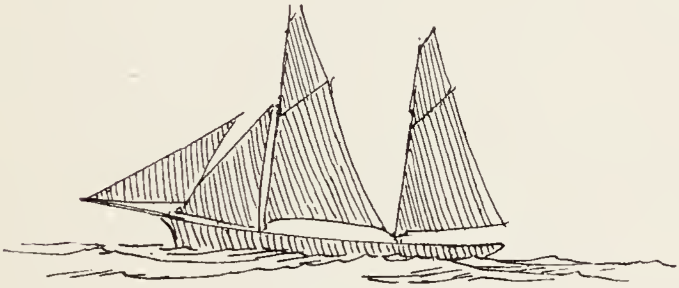

FIG. 186

One July day in 1916, about the latitude of Finisterre, we passed a vessel that was on the border line between the

the fore topmast head, whereas the sail runs on the stay leading to the topgallant masthead (fig. 35).

Since the war ketches seem to have given up this method, and it is common to see the flying jib halyards led to the topmast head as in fig. 175 A.

two rigs. She was too far off to distinguish details, but I could make out a bowsprit nearly horizontal, carrying a single jib. She had a foresail too, but no other headsail. Her mizen gaff was nearly at the level of the main, but the mast was rather shorter (fig. 186).

The mainsail was loose-footed. The mizen had a boom with the end level with the taffrail. Both gaffs were short. She carried yard topsails but she was too far off to see whether or not she had topmasts.

SCHOONERS

The schooner rig in its simplest form consists of a foremast and a mainmast, each bearing a gaffsail, and some headsail. Provided these sails are present a vessel is recognized as a schooner whatever others she may carry as well.

Like so many others the rig appears to have arisen in the seventeenth century, probably in Holland. It was, however, in use in England before 1700. A picture by one of the Van der Veldes[1] shows an early English schooner. She has a jib on a high steeving bowsprit, a foremast right forward and a raking mainmast with its heel stepped nearer the bows than the stern. Both foresail and mainsail have the short Dutch gaff. There is no fore boom.

The rig was at first chiefly for small boats, at any rate in English waters. The shallop in Blanckley's *Naval Expositor*[2] is very nearly a schooner but lacks headsail. At the present time the rig is seldom carried by boats, but at Port Said in 1918 I saw a ship's boat schooner-rigged. Her masts were properly proportioned and carried gaffsails. The mainsail had a boom, but the foresail was loose-footed. Forward she set a jib-foresail.[3] There was no bowsprit.

The ordinary fore and aft schooner has her fore and mainmasts close together, with the mastheads connected by a stout triatic stay. She has fore and main topmasts and usually either a long standing bowsprit or a bowsprit and jibboom.

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[1] Reproduced in the *Mariner's Mirror*, vol. i, to illustrate a note 'The origin of the Schooner rig', by L. G. C. L.

[2] See p. 191.

[3] I have never heard this word, but use it here to avoid confusion with the gaff foresail. The sail was not a jib, for it was all in-board. It was not a staysail but was set flying. Dixon Kemp sanctions the use of 'jib-foresail'.

The foresail sometimes has a boom, and is sometimes loose-footed. A squaresail yard is usually carried.

The rig is not a favourite for English traders. It is probably true to say that, apart from yachts, there were not many more English fore and aft schooners than brigs in the ten years before the war.

Schooner yachts are fairly common. They often have running, or at any rate horizontal bowsprits, and headsails like those of a cutter.[1]

In 1915 we often used to see a steel fore and aft schooner of foreign appearance in the Humber. She flew the Red Ensign and may have been a prize. The feet of both foresail and mainsail were laced to their booms.

In the same year there lay at Yarmouth a German of the same rig. She was built of wood with a round stern in which were two windows, one on each side.

In 1917 when the country was in straits for lack of shipping, a little schooner was fitted out at Stromness for an Atlantic voyage. She was of less than 100 tons register. The fact that it was worth while fitting out a vessel which, compared with even a small steamer, could carry so little and was so slow and defenceless, was significant of the country's danger.

Farther up the harbour was a smaller schooner with a pole foremast. Fore and aft schooners were often seen in Cork Harbour in 1917. One had, what is not uncommon, a boom or footstick to her fore staysail.

The Dutch have many steel schooners, some not differing much from what is usual, except that the masts are generally farther apart. Others look like ketches in which the mizen-mast has grown into a mainmast. We passed such a vessel in the Downs in 1915 (fig. 185). She was laden with timber. Her masts were wide apart and she had no triatic stay. The following year we passed in the Channel a schooner of much the same kind but without a bowsprit. She looked as though she were designed not to carry one. She was flying the Red Ensign but looked foreign.

Before the war the beautiful Dutch pilot schooners were always to be seen in the neighbourhood of Dungeness. They were wooden yacht-like vessels, and could be distinguished as far as they could be seen by having no fore topmast.

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[1] What in a cutter is called the foresail is in a schooner the fore staysail, the name foresail being used for the gaffsail on the foremast.

The Danish fore and aft schooners are graceful little ships, and many were to be seen during the war in the North Sea and the Atlantic (fig. 187). They have pretty old-fashioned transom sterns with a wooden davit projecting aft on either side. Every curve of the lines satisfies the eye and they combine beauty and picturesqueness in a way seldom found. Many yachts are beautiful, but as subjects for pictures they are nearly always failures.

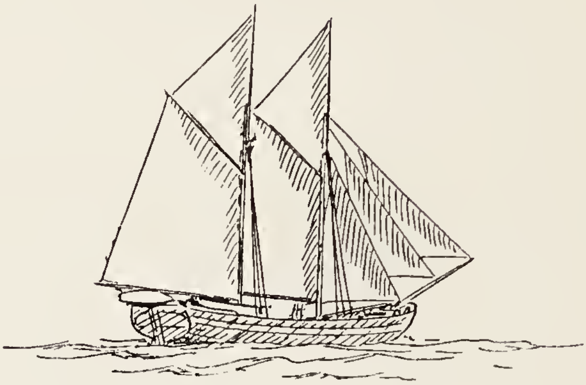

Fig. 187

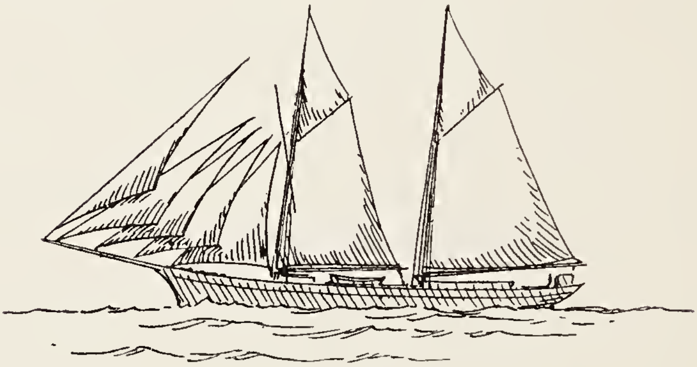

Fig. 188

In 1916, near Cape St. Vincent, we passed a schooner too far off to make out to what country she belonged (fig. 188). Besides her fore staysail she carried three jibs all hoisting to her foremast head and a fourth which, though shown here, was not set, with halyards to the topmast head—five headsails in all. Most schooners have four.

At Sevastopol in 1918 we saw some small fore and aft schooners. They were something like Danes in build, but not so handsome. They had no topmasts. As far as I could make out they had no throat halyards. The foremast was stepped far forward, and the forestay set up to the bowsprit end. Another stay went to the end of the jibboom. The foresail had a boom and the gaff was controlled by a line from the mainmast led through a block at the end of the gaff, and then through another on the mainmast and so to the deck.

A few days later we passed a schooner in the River Bug. She was too far off for details to be made out, but it was possible to see that her foresail was as large as, and perhaps larger, than her mainsail. The fore gaff was much longer than the main. She had topmasts.

At Port Sudan in 1918 the naval authorities were fitting out what they called a 'schooner dhow'. She was dismantled but was to be rigged as a fore and aft schooner with a motor.

Topsail schooners have been mentioned in Chapter III (fig. 78). The rig is much used for our coasters—if one can speak nowadays of any rig being much used. Early in the century topsail schooners, some of them very small, swarmed in the Welsh ports.

I cannot ever remember having seen a Dutchman so rigged.

The rig is used in the Mediterranean. At Salonika there were some topsail schooners with transom sterns and high bows. Another had a pointed stern higher than her stem. Their square canvas consisted of the usual upper and lower topsail. They looked large among the little coasters of the port. Sometimes the foresail of a topsail schooner has a standing gaff.

Three-masted fore and aft schooners are even less popular in the United Kingdom than the two-masted kind. If you speak of a three-masted schooner to an English coasting sailor or fisherman he will generally take it for granted that one carrying square topsails is meant (fig. 79).

Three-masted fore and afters are used by the Scandinavians and Danes and especially by the Russians.

In 1916 I saw in the Downs a steel Danish schooner under sail and motor. Her topsails were set in an unusual fashion. They were to windward, but their tacks were pulled through between the peak halyards and the gaff. Of her three masts the foremast was the tallest.

Russian schooners sometimes have all three masts the same height. They are often fitted with tops like those of a square-rigged ship, but smaller (fig. 189).

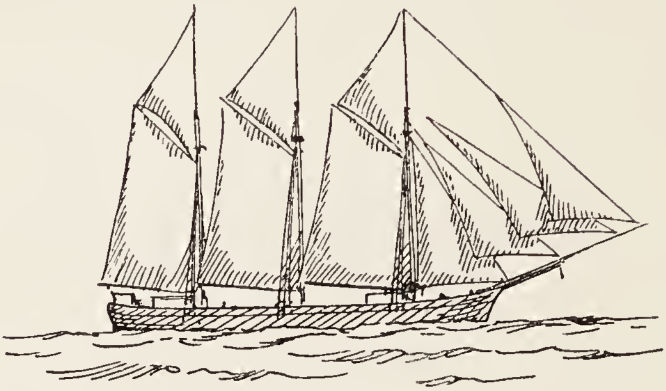

Fig. 189

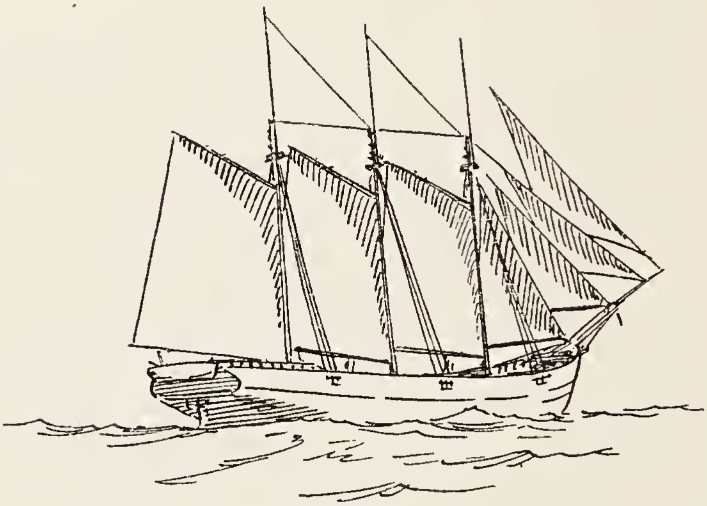

Fig. 190

Before the war American schooners were not often seen in English waters, but while it lasted they were not uncommon. I remember one in particular (fig. 190). It was in September 1916, a little to the west of the Wolf Rock, and about four in the evening. We were bound for Queenstown and overtook the schooner which was on the starboard tack in ballast under all sail except topsails and topmast staysails. Like most American sailing ships she was built of wood, and she had a good sheer and graceful lines. On each side of her poop she had a handsome white balustrade. A boat hung from timber davits astern. Her gaffsails were laced to their booms and her fore staysail and standing jib had foot sticks. Despite the difference of rig her wooden hull called up visions of the old packet ships. She seemed to embody the old sea tradition of America. We were near enough to read *Margaret B. Roper*[1] on her stern, and that she belonged to New York. So we left her heaving gently on her slow westerly way.

In the Mediterranean early in 1919 between Genoa and Gibraltar we passed a yacht-like three-masted schooner flying the Red Ensign. She had no sail set on her mizen-mast. She carried a large main topmast staysail.

A few days later we left Gibraltar in the afternoon and when clear of the harbour took a monitor in tow. While we were so doing one of the most beautiful vessels I have ever seen sailed into the bay, rounded to in her own length almost, and began to shorten sail. She was a Nova Scotiaman, the three-masted fore and aft schooner *Frances Louise*. She had a low, graceful hull painted black, a yacht-like counter, and a rounded cut-away stem. Her masts raked slightly, and the mizen-mast was the tallest. Her spanker or mizen was really her main sail, in that it was the largest of the three. All three sails and the fore staysail were laced to booms.

Her bowsprit was horizontal, and she set a single jib. All her canvas was beautifully cut. She seemed the last word in sail and contrasted strongly with the Spanish brig which we saw a few minutes later (fig. 191 shows the chief features of her rig).

Three-masted topsail schooners were plentiful in home waters before and during the war. The rig is a favourite in England, and the Scandinavians and Danes use it (fig. 79).

The three-masted schooner *Enterprise* of Yarmouth which was afloat in 1915 was a barge, with lee-boards, and drew when light a little more than two feet. She had a topgallant yard. It would be interesting to know whether she was generally known as a schooner or a barge.

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[1] Built in 1893 at Bath, Me. Length 148·1 feet, beam 36·1, depth 10·4. Tons 414. Lloyd's List, 1917.

Four-masted fore and aft schooners are generally American (fig. 192). They were often to be met in the neighbourhood of Gibraltar. In 1915 I saw one, a wooden ship, in the Itchen. All four masts were the same height. Earlier in the same year there was a four-master in the Firth of Forth, and another, built of steel, in the docks at Leith. She was a Dane and I am pretty sure the other was too.

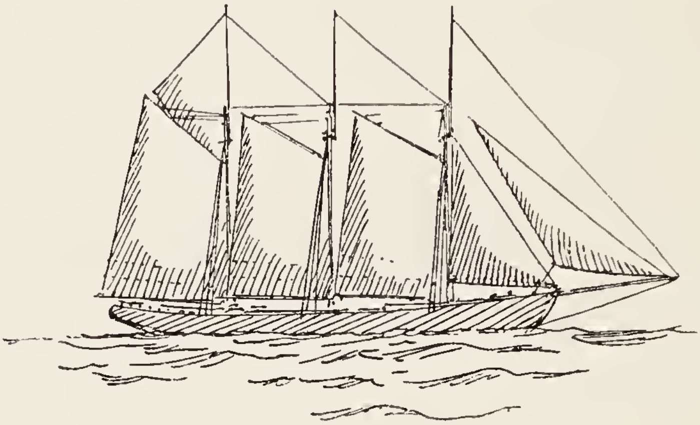

Fig. 191

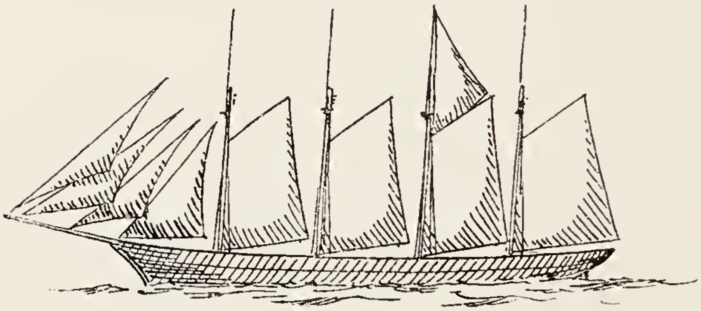

Fig. 192

Nearly all the sailing ships in Leith Roads were Scandinavians and Danes. The different rigs were represented thus: four-masted barques 1, four-masted fore and aft schooners 1, barques 11, barquentines 11, three-masted schooners, topsail 18, three-masted fore and aft schooners 8, brigs 5, brigantines 4, topsail schooners 4, fore and aft schooners 10, ketches 3.

Four-masted topsail schooners are very rare in our ports.

I have only seen one in my life, nearly twenty years ago in the West India Docks.

Five-masted fore and aft schooners crossed the Atlantic during the war. I saw one early in 1919 in the Mediterranean near Iviça (fig. 193). She was a large wooden ship, the *Asta* of New York. She had a motor, and perhaps in consequence was without topmasts. She had a squaresail yard. The sail on the fifth mast was the largest, but the masts were all the same height.

Very much like the *Asta* was the *Reims* of Bordeaux which we found at Gibraltar. Though French she looked as though she had been built in America. She also was of wood and had no topmasts. She had two small funnels abreast near her fourth mast. She had a quarter-deck and poop, but the latter did not reach all the way to the stern.

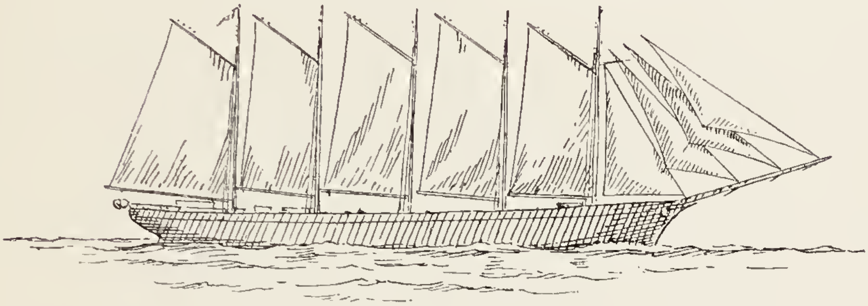

FIG. 193

Schooners with six and even seven masts have been built.

The gaffsail is the only one that can claim to surpass square rig in its universality. It is at once its rival and its ally. Lateens, spritsails, and lugs are widespread, but only comparatively small vessels carry them. The gaffsail is carried by open boats and by the largest sailing ships. So general is its use that when a vessel is described as being fore and aft rigged gaffsails are nearly always taken for granted. Everywhere, except perhaps in the Red Sea, it tends to replace other sails. The yard of a lateen is cumbersome if very long. A large spritsail means weight aloft and much to catch the wind when brailed up. A dipping lug gives heavy work in stays, and a standing lug from the difficulty of reducing sail quickly is suitable for small craft only. From the defects of these sails a gaffsail is free. It is one of the greatest inventions of modern times.

VII

LUGSAILS

LUGSAILS have been left till last because, though a form of lug is one of the most ancient of sails,[1] they came into general use in Europe later than all those hitherto described. The earliest representation of a European lug that I have been able to find is Waganaer's *Speculum Nauticum* of 1586. Some vessels carrying the sail embellish one of the charts of the Baltic.

The sail, almost in its modern form and called a lug, was known in England in the seventeenth century [2] but appears to have been little used till the latter half of the eighteenth, and we hardly find the word ' lugger ' until after the Seven Years' War.[3] Falconer,[4] 1769, does not give it, nor does Lescallier,[5] 1777, and the latter does not distinguish clearly between a lug and a square sail. But Steel in his *Seamanship* of 1794 shows a fully developed lugger so named.

For fishing and other purposes comparatively small vessels used square sails till the end of the eighteenth century, but in the last decades most of them were given up in favour of gaffsails or lugs.

In Queen Elizabeth's time and for long afterwards the ordinary vessel employed in the North Sea herring fishery was the buss. She was a bluff-bowed, round-sterned craft from fifty to eighty feet long and thirteen to fifteen in beam. She was rigged with three masts, each carrying a square sail. The mizen, which a seventeenth-century writer could hardly bring himself to call by that name because it was square, was a small sail used chiefly to keep the ship's head to wind when she was riding to her nets [fig. 194].

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[1] *A history of Indian shipping* by Mr. Radhakumud Mookerji contains pictures of some ancient lug-like sails.

[2] Pepysian MSS., No. 1731. I am indebted to Mr. H. H. Brindley, F.S.A., for this reference. The earliest example of ' lugsail ' in the *N.E.D.* is of 1677.

[3] In the introduction to Vol. I of the *Letters of Lord Barham* published for the N.R.S., Sir J. K. Laughton mentions a French lugger of 1762. The earliest example given in the *N.E.D.* is of 1795.

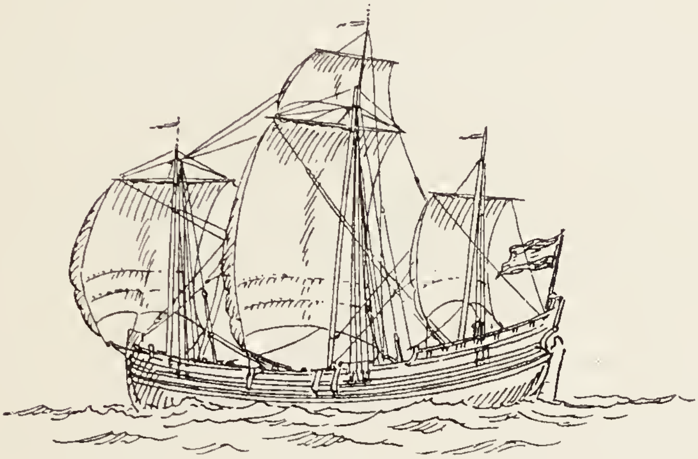
[4] *Marine Dictionary*.

[5] *Vocabulaire Maritime*.

In 1915 we passed a Scheveningen smack with her mast lowered riding to her nets. A little square lug mizen was set, and though she was broader than the busses were and lacked a foremast, she strongly recalled the old pictures.

Later on, in the Orkneys, a Stromness householder, discussing the fluctuations in the herring fishing, spoke of the busses that he remembered coming to the harbour. I could not make out exactly what the word meant to him, but it was interesting to find it still in use.

At Great Yarmouth the weathercock of the Seamen's Hospital, founded in 1702, is a herring buss of the period, shown as though riding to her nets with fore and mainmasts lowered and her mizen set.



[FIG. 194]

In a pediment over a door in the same building dated, as far as I could make out, 1794, is a careful representation[1] of a three-masted lugger of the kind that replaced the square-rigged buss.

To understand how one rig supplanted the other it is necessary first to consider the origins of the lugsail.

The evidence is strong that it descended from the lateen. At the present day we have every stage from the sail of a tartan to an undoubted lug in use south of the Bay of Biscay.

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[1] Great attention has been paid to details, purchases, and the like being carefully modelled. The lugger has a jib set on a running bowsprit, lugs on all three masts, and a main topsail on a topmast stepped abaft the mainmast head. The mizen is sheeted to a bumkin.

Was it also descended from the square sail? At first sight nothing could seem more obvious than that it was. You have but to bring the tack of a square sail a little nearer the mast when sailing by the wind to convert it into something very like a lug. I have seen it done in the little square-rigged boats used in the River Roach oyster fishery.[1]

In a small boat requiring no standing rigging a man sailing with his square sail nearly fore and aft and taken aback by a shift of wind, would find that he had gone about without swinging his yard, and that with a little trimming of his sail he could use it, after a fashion, to windward of the mast. He would then have discovered the lug. All he would have had to learn was to dip the yard so as to keep the sail to leeward when he went about, and that it would set better with the halyard bent nearer the fore end of the yard.

Nevertheless in larger vessels the lug seems to have had a less simple origin. We can only guess why. In the first place a lug arrived at in the manner just described would be a makeshift, and it takes a very long time for a makeshift to be accepted as regular.

Secondly, and this is a more weighty reason, the change from square sail to lug, so easily accomplished with a boat's sail, is much more difficult in a ship. The dividing line between ships and boats is never clear, and nowadays is more confused than ever, but any decked sailing craft above forty feet long presents the problems of a ship rather than of a boat. A large sail cannot develop into a lug without a leap when a certain stage has been reached, and it is easy to see how difficult this leap would have been had not large lug sails been already known.

To understand the difficulty it is necessary to grasp the essential difference between square sails and lugs. The handling of square canvas has a proud tradition that separates its followers from the men who use fore and aft sails. In his heart the square-rig man regards the fore and aft man as only half a sailor, and though this feeling may have been less strong in the smaller square-rigged vessels in which going aloft was seldom necessary, yet it was probably there and influenced the outlook of their crews.

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[1] See Chap. II, p. 38.

The first steps were easy. The square sails of the small coasters and fishermen of the early eighteenth century were tall and narrow, and since the rigging was not widely spread at the masthead their yards could be braced nearly as much fore and aft as those of a lugger, and on a wind with the tacks well bowsed down and the yards in consequence tilted, the sails must have closely resembled lugs. The essential difference, however, remained. The yard of a square sail, when hoisted, hangs before the mast, and in changing from one tack to the other must be swung round, so that what was the forward and weather yardarm becomes the after and lee. To allow of this swinging of the yard, it and the sail have to be outside the rigging that supports the mast on either side.

A lugsail, on the other hand, hangs between the rigging, when there is any, and the mast, and in going about is either alternately to windward or leeward of the mast, or else must be lowered and hoisted again on the other side of it. Whichever is done the forward end of the yard remains forward.

The difference between the two kinds of sail is so profound that had not the large lug been developed independently—it is suggested from the lateen—the square sails, though approaching the lug in shape and manner of setting on a wind, would probably have approached it no farther.

During the latter half of the eighteenth century the lugger rig seems to have been developed on the other side of the Channel, and to have been adopted by us.

We know that after 1770 it became popular, and it is probable that it was welcomed by fishermen because the way had been prepared for it by their method of setting their square sails. Figs. [195] and [196][1] show how much

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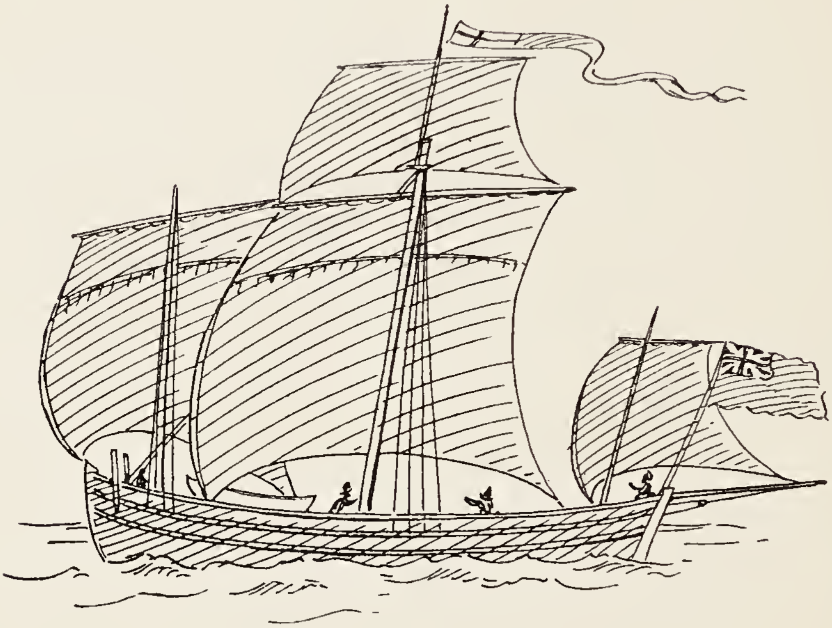
[1] I am indebted to Mr. Morton Nance for calling my attention to these two pictures, which he very kindly copied from the jugs on which they appear. He writes :

'I enclose the jug fishing-boats. They are disappointing from your point of view, for the upper one is, except for the mizen, absolutely square rigged, with reefs at the top of the foresail and mainsail. The important detail as to shrouds is left undetermined ; but there is no reason to suppose that they are not on both sides abaft the sail. The wales on the sides, anchor-stocks at the bows, and the boat on board, all show her to be an E. Coast buss.

'The lower one I believe to be a Cornish boat ; she at all events tallies with the descriptions that I have had of the old-style boat as she was up to the forties. She is an undoubted lugger, rigged without shrouds, and her sails, alike the late square-rigged fishermen and the early luggers were.

Little alteration had to be made in the vessel's gear to change from square rig to lugger beyond carrying the sails inside the rigging and altering the position of the halyards. But the step was a great one, entailing as it did an entire change in the method of going about, and it is unlikely that it would have been taken had not luggers, otherwise developed, shown the advantages of their rig.



[Fig. 195]

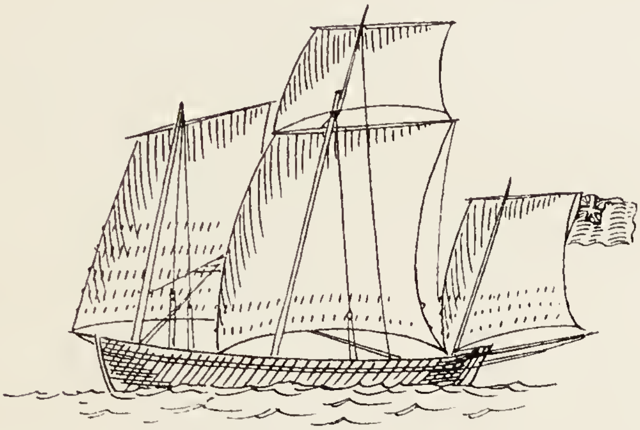
We may therefore regard Northern and probably some Southern lugs as descended from both the square sail and the lateen. Most Southern lugs are perhaps of pure lateen ancestry.

Luggers, that is vessels carrying lugs on two or more

of course, reef from below. I think the *five* reefs on the foresail may be a mistake, the two upper cringles serving really for the vargord—not shown. There seem to be two bowlines to the mainsail. They are correctly shown as being made fast to the foremast, but I take it that the upper one was meant to lead to the topsail, which certainly carried one. These jugs were made to sell to fishermen, and have in each case the same motto and "fisherman's arms". The upper (buss) jug is Staffs. I have been told that the lower (lugger) one is Liverpool, but I am not sure of this. The boats were no doubt provided by the dealers for whom they were made. Flags on both show the old ensign, possibly mistaken—the jugs can't be much before 1800, anyway.'

masts, rose rapidly into favour and were used as men of war, for fishing, and for the carriage of goods. At the present time the use of the lug is almost confined to fishermen in the north, but in the south it is still carried by traders.

At the present day lugsails are divided into two principal groups. One contains those sails which have to be lowered when the boat goes about and hoisted again on the other side of the mast. These are called dipping lugs. The other includes all those sails to which the name lug is given that do not require to be dipped. These are called standing lugs, and there are several kinds.



[Fig. 196]

There are few more interesting stretches of water than the Downs. They combine the fascination of the sea and of the river. There the ships which look so immovable and asleep in docks and basins are seen about their business and full of life. The landsman gets a glimpse of the seaman's calling, and the significance of the sea in human affairs can be felt better on Deal beach than on any western crags shunned by mariners. For deep-sea sailors the Downs mean the beginning or ending of a voyage and the near sight of home.

Even steam has not robbed them of all their romance, nor will while sea fogs rise and the Goodwin Sands remain.

At any time before the war, if you looked seawards from between Deal and the South Foreland you would have been nearly sure of seeing an outward bound steamer towing a boat astern. If you looked again, after a few minutes the boat seemed to have vanished till a little flutter of white against the steamer's side showed that she had made sail to put the pilot ashore. Presently you would see another steamer on the same course and would notice two long, low boats each with a nearly oblong sail amidships heading to intercept her. If one were well ahead the other presently gave up the chase. The successful boat appeared to be about to ram the steamer; but close alongside her sail and mast were lowered, a line was caught, a turn taken round the towing bollard forward, and without the steamer's slacking speed a moment, the boat was in tow and ready for the pilot when it was time for him to leave.

The boats engaged in this work were the famous galleys and galley punts. I say were, because the last time I saw a pilot landed at Dover he came ashore in a motor-boat. Landing pilots, however, is only part of a galley's work. Whenever there is trouble in the offing a galley appears from somewhere and offers assistance.

I was once at St. Margaret's Bay helping to fit out a boat. It was foggy weather, but not calm, and the noises that came out of the sea were drowned every minute or two by the enormous mooing of the South Goodwin Lightship. Suddenly we heard something else, but hardly realized that we had heard it till a moment later the fog thinned and showed the dim shapes of two steamers one athwart the stem of the other, a few yards apart. We could see a great crumpled dent in the bow of one of them and the side of the other, and men climbing down to survey the damage.

While we watched a galley was run down the beach, launched, and headed for the ships. Then from behind the cliffs to the south shot out another galley from Dover. We watched them race, and tried to follow in our eight-foot pram. Assistance was not wanted, and all returned empty-handed. By this perpetual watching and never letting a chance slip the galleys earn their keep.

In bad weather the deeper and broader galley punts are used, but a galley will brook more sea than would be thought possible from the look of her on the beach, so long and low and narrow is she. Under sail she appears to avoid the waves and to twist by them as though her keel were constructed with vertebrae.

The first time I met one of these boats I could hardly believe my eyes. It was from the deck of a fair-sized cutter yacht. We had been plunging off the North Foreland, and had eased sheets for Ramsgate. We passed close to a galley or a punt—I did not then know the difference. Her sail was lowered, and she lay ' hulling ' in the sea that was throwing us about in spite of our twelve-feet draught. She seemed to take no notice of it, and her crew were as unconcerned as though they had been in harbour.

Galleys[1] are 27–30 feet long, and the length is six times the beam. Galley punts are generally 30 feet by 7 feet 6 inches (fig. 197). Formerly there were also boats 36 feet by 9, and 24 by 6, but these have fallen out of use.

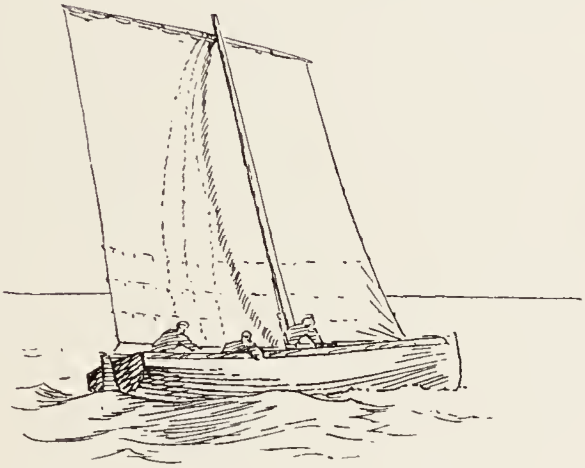


FIG. 197

They are, like all English beach boats, clinker-built. The stern ends in a small transom. The mast is stepped exactly amidships. There is no standing rigging, but a tackle called a burton which is made fast to an iron at the masthead can be used as a backstay if necessary.

The sail is a narrow dipping lug. It is bent to the yard by knittles, not a lacing, and the long ends of the knittles serve as tyers. It is hoisted by a tye and halyards. In galleys the tye is of well-stretched and greased rope passing over a dumb sheave in the mast and bent to a traveller to which a strop placed one-third of the length of the yard from forward is hooked. As the tye stretches the bend is shifted, and the end taken round and round the standing part.

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[1] For these details I am indebted to Mr. L. G. Carr Laughton who has studied the boats for years.

Galley punts use a wire tye. The halyard of a galley is a whip rove through a single block at the end of the tye. It has an eye splice at each end. One eye is put over a pin or cleat, and the other passes under a sheave placed inside the gunwale and leads aft to within reach of the helmsman.

The halyard of a galley punt is made fast to the block on the tye and then rove from aft forwards through a block on the gunwale, then through the block on the tye, then under a sheave inside the gunwale, and so comes aft as in a galley.

The tack is hooked to the weather gunwale and there are two hooks, one for use when the sail is reefed. A galley usually has two rows of reef points, and a galley punt four. Between the reef cringles which have thimbles in the usual fashion are other cringles without thimbles. These are called stakens, and are used to take in a kind of half reef, when the number of reefs already in the sail is not enough. The tack hook and the sheet block are bought to the staken, and further tying of points is not required. The cringle above that of the close reef is called the yardarm—or the mannikin—staken. It is hardly ever used.

Instead of reefing a smaller sail is often set. In going about instead of dipping in the ordinary way, one sail is lowered and another sail hoisted on the other side of the mast.

During the war galleys had to show a coloured band on the sail and to carry a red ensign. This was flown on a staff in the bows.

The famous Deal luggers[1] are used no longer. They were much larger vessels with two masts and rigged almost as are the Hastings luggers. One of their chief occupations was the carrying of anchors and cables to ships forced to slip and run for shelter to the Downs, but sailing ships are too few to afford them a living by their accidents, and the luggers go to sea no more. One is preserved at Deal as a monument of the kind of vessel in which the boatmen of that coast won their renown.

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[1] An excellent description of these boats and their work is to be found in *A Sea-painter's Log*, by R. C. Leslie (Chapman & Hall, 1886).

When the luggers were gone the galleys and galley punts for many years worthily upheld the traditions of the Downs.

The beach yawls of Norfolk and Suffolk, which are something like the galley punts, seldom put to sea ; so a fisherman told me in 1914 at Kessingland, near Lowestoft, where there was a yawl, built only five years before. The rig used to consist of a dipping lug foresail and a standing lug mizen sheeted to a bumkin.

Six years before the war pilots used to be put ashore at Flushing in boats very much like the galley punts, but having the mast a little farther forward, and being fitted with a little triangular mizen. Above the latter was flown a flag with P. for pilot on one side, and on the other L. for the Dutch for pilot, a word much like the Old English ‘ lodesman ’.

The Yorkshire cobles have often been portrayed and described (fig. 198), and it was pleasant to find them flourishing during the war. As every one knows, they are like an ordinary boat forward, but the after part is flat-bottomed, so that the bow draws more water than the stern. In order to get a proper balance the rudder projects downwards like a centre board. The mast is well forward and rakes aft. The sail is a narrow dipping lug with a high clew. Some cobles are a great deal larger. Their greater size exaggerates their peculiarities ; the tumble home at the quarters, and the resulting shape of the transom gives them an old-fashioned look. They are decked forward. Besides a dipping lug they set a jib on a bowsprit (fig. 199).

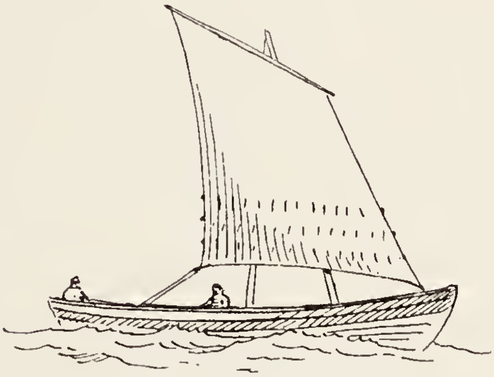

Fig. 198

A remarkable type of boat is used by the fishermen of Emsworth in Chichester Harbour (fig. 200). These craft are heavily clinker-built with transom sterns, and are decked at each end. The usual dimensions are fifteen feet by five feet six inches.[1] The midship section is like a V and the sides are nowhere vertical.

[1] I am indebted to Mr. J. B. Buckle of Farlington, Hants, for most of

They carry a tall narrow lug much like the sail of a galley. Because of its shape it is treated here with other dipping lugs, but I am told it is not dipped in practice because the boats never beat to windward, but rely on oars. It is however set to leeward. In the Bosham boats which have centre boards and do beat, the sail is not dipped. The tack is rove through a hole in the gunwale. Two masts are carried, one for whole sail, and a shorter one for the reefed sail. The mast step is rather more than a third of the boat's length from the stem. They are most dangerous-looking boats and would not live long in a seaway, but in the channels and rithes of Chichester Harbour the water is generally smooth and they continue in use generation after generation.

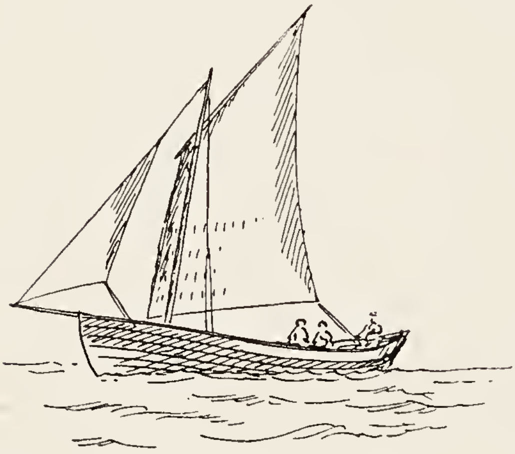

FIG. 199

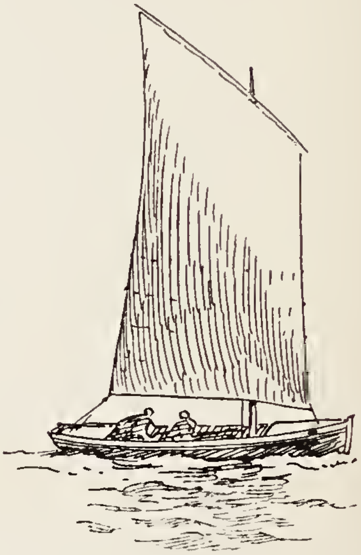

FIG. 200

The largest craft I have ever seen rigged with one mast and a dipping lug were in the Bosphorus (fig. 201). The hull resembled that of the *tchektima* described in Chapter II.

The mast was stepped about a third of the boat's length from the stem. The sail was a high-peaked lug. The yard was longer than is usual in Northern waters, but the sail

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these details. He informs me that ' the type is a very ancient one and judging from old prints these boats have hardly altered at all for the last century or more. The curious lofty narrow dipping lug is universal (i. e. in Chichester Harbour), but some of the Bosham boats have fitted c.b.'s and are rather handier. On the whole I should say the boats are about the worst things of their kind to be found anywhere in the British Isles ! '

was unmistakably a lug and not a lateen. I call it a dipping lug because that was what it looked like, with its tack brought almost to the stem, but whether it was dipped or not I never had an opportunity of discovering. It may be that, following the example of the lateen, it was left to windward on one tack, but in Northern waters such a sail would certainly be dipped.

There were two shrouds aside fitted with tackles. What appeared to be the halyard had a long pendant to its lower block, and was brought to the gunwale well abaft the rigging. Besides the tack a tackle was hooked into the cringle of the first reef and set up just abaft the stem. Some of these vessels had two reefs in the foot of the sail, and a row of points at the head as well. The long ends of the knittles hung from the yard. A line which appeared to be a kind of brail was bent loosely to the luff and leach at the level of the second reef and passed through two beckets in the bunt of the sail.

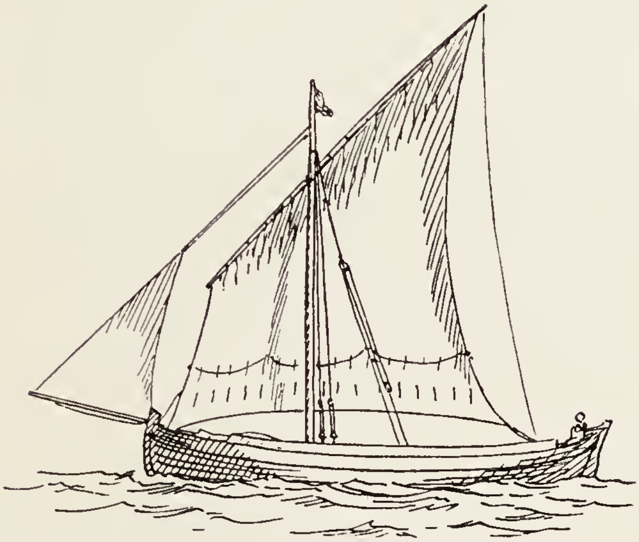

FIG. 201

A low-footed jib was sometimes carried. It was strange to see a sail of this kind, so comparatively Northern in appearance, in a Turkish hull, and amidst the medley of odd square sails, modified lateens, and spritsails which throng the Bosphorus. Their diversity reflects the gallimaufry of races at Constantinople. Greeks, Maltese, Armenians, Turks, and Jews, and Heaven knows how many more, inhabit the city, and the ships of distant countries in all times have visited it.

In the British Navy the rig for the sharp-sterned boats known as whalers used to consist of two dipping lugs, foresail, and mainsail (fig. 202). When the war began this was being replaced by a handier and more serviceable sail plan, but many boats were rigged in the old way. Whalers are usually twenty-seven feet long.

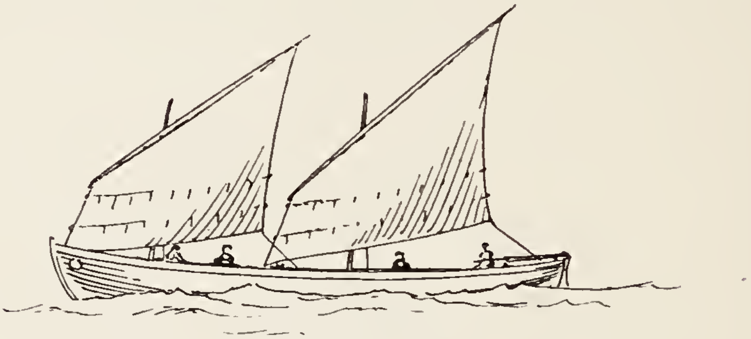

Fig. 202

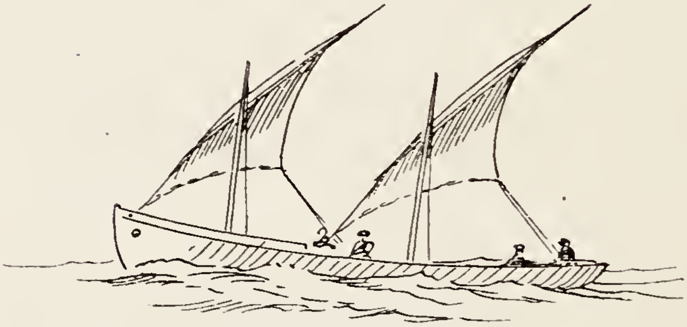

Fig. 203

The foremast is stepped about four feet six inches abaft the stem, and the mainmast about eleven feet abaft the foremast. Both are slightly raked. The main truck is within a few inches of ten feet above the gunwale, and the foremast is a little shorter. The sails are low with the head longer than the leech,[1] and unlike those carried by any British beach boat. They are said to sail well with the wind abeam.

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[1] The dimensions given in the Admiralty manual of seamanship, 1908, are, for a 27-ft. whaler: mainsail, head 15′ 8″, luff 4′ 9″, foot 12′ 2″, leech 12′ 6″, throat to clew 10′ 4″; foresail, head 12′ 6″, luff 3′ 10″, foot 10′, leech 10′ 8″, throat to clew 8′ 6″.

Gigs, which are not unlike Deal galleys, are rigged like the whalers, but the sails are slightly different in proportion one to another[1] (fig. 203). The captain's galley is usually a gig.

In the French Navy boats about the size of our men-of-war's cutters, perhaps thirty-five feet long, are rigged with two dipping lugs (fig. 204). They are taller, handsomer sails than those of old-style whalers, and there is not so much canvas before the mast.

The mainmast is stepped almost amidships and rakes aft a great deal. The foremast also rakes, but not so much.

Apart from men-of-war's boats the rig is very rare. I have seen it in the Suez Canal, where it was carried by a boat used for some official purpose. Her fore tack came well abaft her stem, and she flew a flag on a staff in the bows.

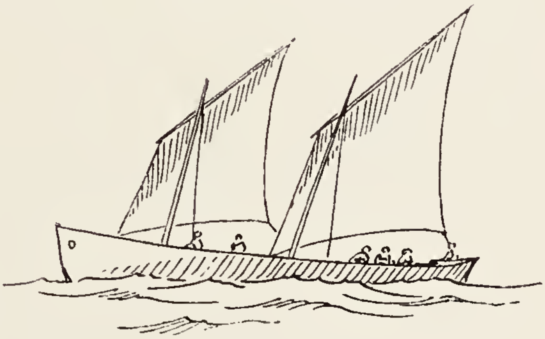
FIG. 204

In Northern waters the most popular combination of lugsails consists of a dipping lug foresail and a standing lug mizen. Some craft carry a jib also, and the form of mizen varies.

In small boats the mizen-mast is generally stepped right aft, the tiller is bent to avoid it, and the sail is sheeted to a bumkin. This rig, with or without a jib, is a common one for beach boats, especially on our east and south coasts. I have seen it, without a jib, at Perim. The smaller men-of-war's cutters used to carry it with a mizen boom as well as a bumkin; but these jolly boats, as they were sometimes called, are rarely seen nowadays.

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[1] The sails of a 30-ft. gig measure: mainsail, head 17′ 10″, luff 4′ 8″, foot 15′ 2″, leech 14′ 9″, throat to clew 13′ 8″; foresail, head 14′ 4″, luff 4′ 4″, foot 11′ 6″, leech 12′ 2″, throat to clew 10′

In ketches and dandies which also have the taller mast forward and the shorter aft, the masts are main[1] and mizen, but in the kind of lugger now under consideration, they are fore and mizen. The reason is that formerly luggers commonly had three masts, fore, main, and mizen. In the second half of the nineteenth century the mainmast came to be given up by English fishermen, and the fore and mizen kept their old names, exactly as the classes of railway carriages, now that second is abolished on most lines, remain first and third.

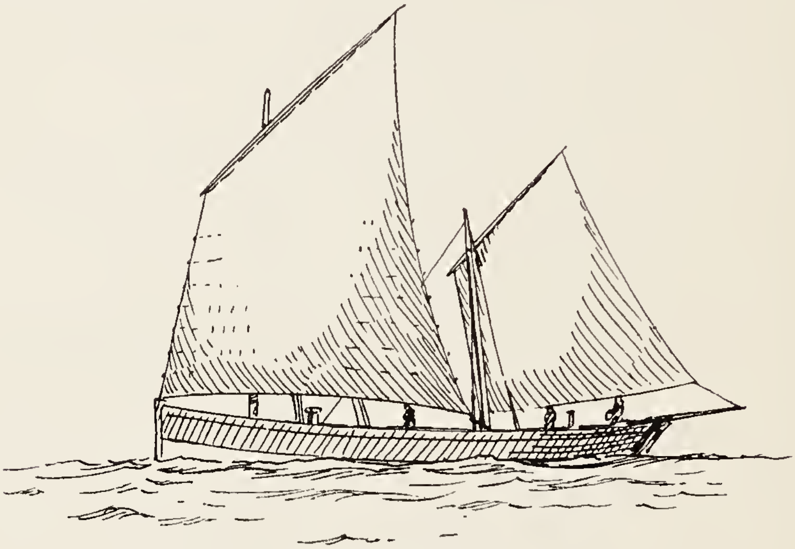

FIG. 205

A favourite rig for the larger fishing-boats of our coasts is the dipping lug foresail and standing lug mizen, with the latter well in-board and sheeted to a bumkin.[2] These are the sails of the well-known Scotch drifters which visit Yarmouth and Lowestoft for the autumn fishing.

They are large carvel-built craft with straight stems. There are two kinds, the keel-boat or fifie, and the zulu. The difference lies in their sterns. They are pointed in both classes, but whereas that of a keel-boat is vertical, a zulu's stern-post rakes aft from the keel (fig. 205). In consequence the keel of an ordinary zulu is ten feet shorter than that of a fifie of the same length on deck.

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[1] The main is sometimes colloquially spoken of as the foremast, as is natural from its position.

[2] Fishermen generally call this spar the mizen boom.

The origin of the zulu was told me by more than one skipper. Formerly, besides the keel-boats, there was a boat called a scarph or scarphie[1] which had ‘ both her stems ’ raking. In a port on the east coast of Scotland lived a fishing-boat owner called Campbell who wished to build a new boat, and to have instead of the then more usual scarphie, a keel-boat. Mrs. Campbell, however, did not like the upright stem and stern, and would not agree. Since neither would entirely give way to the other, they compromised, and built a boat with an upright stem and a raking stern. She was successful, was copied, and a new type was established. Its name tells the date of its origin.[2] Thus has an inland African race given a word to the fishermen of the North Sea.

I never saw a scarphie and was told they had fallen out of use. They were clinker-built as the zulus and keel-boats used to be. I saw a few old disused keel-boats at Stromness that were clinker-built, and was told that a few so constructed were still in use. Except for their sterns there is no important difference between a fifie and a zulu. The deck is sunk below the gunwale, as though it had been laid upon the thwarts of an open boat, and the ends of the frames show all round it. About three-quarters of the way aft is a huge thwart a few inches above the level of the deck. Steering is with a wheel.

The enormous foremast which is lowered when the boat rides to her nets is not pivoted, nor is its lower end weighted. It is hauled up by the steam capstan till it rests on the mast step. The heel during the process slides against the foreside of the tabernacle. I do not know what the fishermen call it. I passed my hand over this and found it as smooth as a polished table.

There are no shrouds, but the halyard is taken to windward, and there is a burton to the masthead. The fore tack comes to the stem. The foresail is a huge sail, bent loosely to a short yard. There are seven cringles in luff and leech, but only the lower four [1] correspond with reefs. The foresail is hoisted by steam.

---

[1] This word is usually spelt skaffie, but knowing the English neglect of the letter *r* I listened to the pronunciation of the word by Scotchmen and came to the conclusion that an *r* was sounded.

[2] The Zulu War was in 1878–9.

The mizen-mast, which is about two-thirds of the length of the foremast, is stepped about half-way between the foremast and the stern, and rakes forward. It carries an ugly standing lug sheeted to a massive boom which is run out for the purpose. It does not project far. When the foremast is lowered it rests in a crutch or mitch board which stands to starboard of the mizen-mast. In 1915 I saw a zulu off the Tyne with no mizen-mast. Nearly every zulu and fifie was fitted with a motor, and this may have been the beginning of the inevitable decay of sail that follows the introduction of propelling machinery. Another zulu had frankly taken to steam and had abandoned her lugs. In a very few years it is probable that these vessels will carry nothing but a mizen to make them steer better and for riding at their nets. A skipper told me that they had grown so big as to be almost unmanageable at times.

Zulus and fifies are handsome vessels. They are usually painted black with white showing below at the bows.

It is noteworthy that whereas the largest sailing trawlers use gaffsails, the drifters which are about the same size prefer lugs. A trawler trawls under sail, whereas a drifter drifts with her mast lowered, and uses her sails chiefly for making a passage, and does not have to go about as often as a trawler. Hence the trawler has sails of which the principal advantage is that they require little attention and are easily handled, while the sails of a drifter are better adapted for a lowering mast, and when lowered themselves take up little room. They are more difficult to handle, but when they require most attention the nets are on board and the crew more free to give it.

Besides the keel-boats and zulus, small craft having a general resemblance to the keel-boats with stem and stern nearly alike are to be found in the Orkneys and on the east coast of Scotland. There seems to be many stages from the yole upwards. I was told of yoles in Scotland used for line fishing and not so beamy as those of Orkney; of baldies, also used for line fishing and rigged like fifies. In the Orkneys, too, I heard of sloopies and firthies, but was never able to discover exactly what the names stood for.

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[1] Or five. I omitted to note the exact number.

At Yarmouth in 1915 we used to see a vessel like a small zulu but with a mizen-mast larger in proportion. She was called the *New Surprise.*

Many West Country fishermen carry the dipping lug foresail and standing lug mizen. The mizen-mast is taller in proportion than in the Scotch boats, and is stepped much farther aft. The mizen-boom is correspondingly longer. I saw very few of these craft during the war, but a few Penzance luggers used to be met.

The usual rig for men-of-war's cutters is a dipping lug foresail and a large standing lug mizen with a pivoted boom, not a fixed bumkin (fig. 206). In the Navy this sail is called the mainsail, though it is much the smaller of the two,[1] probably to distinguish it from the mizen carried in the smaller cutters. The foremast is farther aft than in most fishing-boats, and there is consequently more sail before the mast.

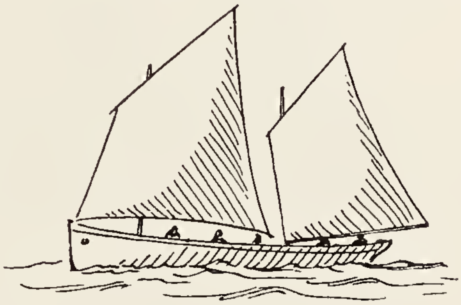

Fig. 206

In 1915 I saw a lifeboat in the Humber rigged much as a service cutter, but with no mizen boom.

The two lugs, with a bowsprit and jib as well, is also a favourite rig for fishing-boats. Among the largest to carry it before the war were the Boulogne luggers; there are doubtless many remaining (fig. 207). They have marked sheer, and high bows, and short square-ended counters. The mizen-mast is stepped to starboard of the rudder-head. It rakes forward and is only a few feet shorter than the foremast. It is surmounted by a gilt device, usually a cross. The mizen is about half as big as the foresail. It is sheeted to a very long fixed boom. A mizen topsail is set on a yard like that of a lug.

The foremast is well forward. But little of the foresail stands before it, and the tack is set up abaft the stem. A peak halyard is fitted. There are five or six rows of reef points.

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[1] The dimensions of sails for a 34-ft. cutter as given in the Admiralty manual of seamanship are: foresail, head 13′ 4″, luff 15′ 8″, foot 21′ 5″, leech 22′ 10″, throat to clew 19′; mainsail, head 13′ 6″, luff 10′ 2″, foot 12′ 3″, leech 21′ 10″, throat to clew 15′ 7″.

The bowsprit from fore end to heel is longer than the distance between the masts. When run out as far as is required in ordinary weather some eight feet remain abaft the foremast. It has no rigging.

The much smaller Folkestone boats are rigged in nearly the same way, but the mizen topsail is narrower and its foot is spread by a jackyard (fig. 208).[1] The mizen topsail yard stands higher than the foremast. The Folkestone boats are built in the West Country. There are two kinds, one with a transom, and the other with a pointed stern.

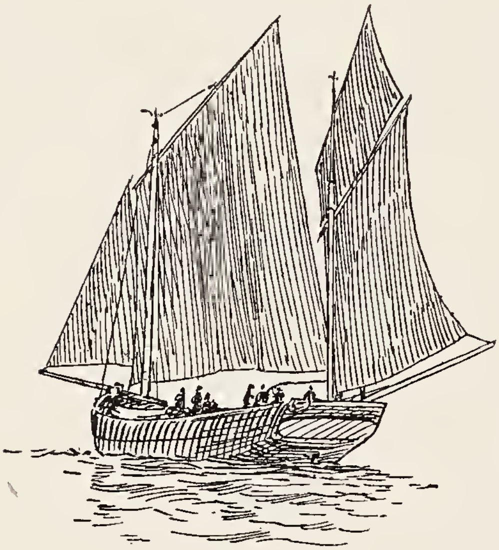

Fig. 207

The rig is also used at Yarmouth by some craft with elliptical sterns. One at least in 1915 had a leg-of-mutton mizen instead of a lug (fig. 209. Her foresail is aback. She was beating out of Yarmouth Harbour when photographed, and dipping was not worth while in the narrow channel).

Except for the small boats, nearly all fishing craft are carvel-built. The Hasting luggers, however, are clinker-built (fig. 210). They are the largest craft I know that are hauled up the beach. The well-known Hastings tripper-boat is even bigger. The *New Albertine* is licensed to carry more than a hundred and thirty persons. Two others, the *Albertine* and the *New Skylark*, were rather smaller. They were open, save for a little foredeck, and were dandy-rigged with boomless gaff mainsails and lug mizens. I inquired of them a few years before the war, and was told that they had become nail sick and were used no longer.[2]

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[1] I have been unable to learn the fisherman's name for this spar.

[2] The *Albertine* has retired to Newhaven, and carries the beach stones known as boulders.

The larger Hastings boats are thirty feet on the keel and the smaller twenty-five feet. The beam is almost, if not quite, half the keel length. They are decked. They are rigged like the Folkestone boats and carry a mizen topsail with a jackyard. I am told that a mizen staysail is also set, but I cannot remember ever having seen one. My informant, a Hastings fisherman at Haslar Hospital, said that all the boats had been fitted with motors and had given up sails during the war; if so, they have resumed them since.

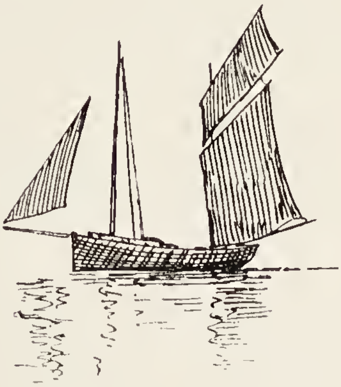

Fig. 208

A line from the bowsprit end which is rove through a block at the foremast head and serves as a forestay is called the fore burton. There is a mizen burton which really is a tackle. One of its uses is to trice up the rudder.

The older boats have square sterns with a short counter, and the more recent have elliptical sterns.

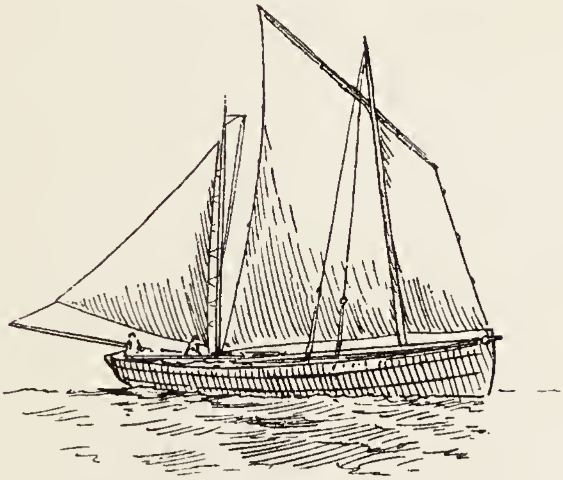

Fig. 209

The small open boats used for fishing at Hastings are called 'bogs'.

The Brighton boats resemble those of Hastings where some of them are built. In October 1919 a fisherman told me that his craft was 22 feet on the keel, 26 feet over all, and 11 feet in beam. She had a motor like most of the other boats. Several of them now use a leg-of-mutton mizen. I asked the fisherman what was done when the weather was too bad to allow a boat to be beached. He said that it hardly ever was too bad, and that with a south-westerly gale they could run ashore on a falling tide. The cost of a lugger such as his, complete with motor was now, he told me, £900.

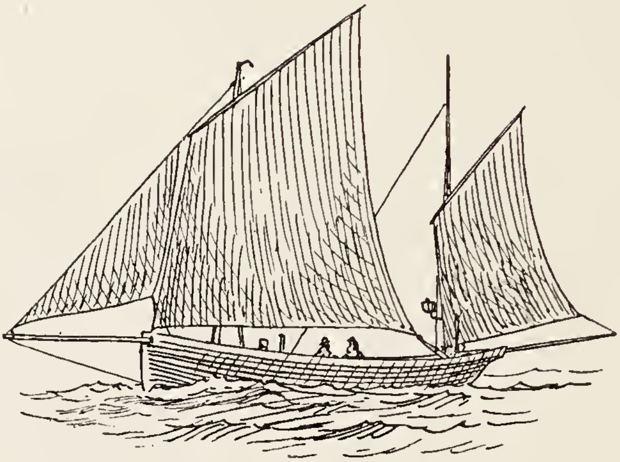

Fig. 210

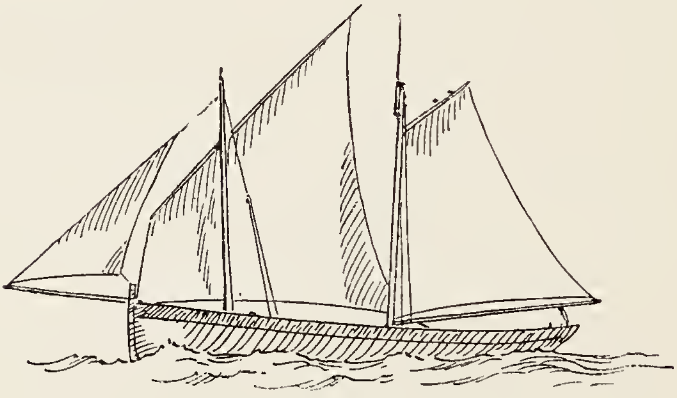

Fig. 211

A gaffsail is never carried together with a lug in British boats, though I am told that forty years ago some of the Bristol Channel pilots had a lug foresail and a gaff mainsail.

In September 1916 I saw a vessel about as big as a Brixham trawler rigged in this way off the Portuguese coast to the north of the Berlings (fig. 211). She was a good distance off and I could not make out the shape of her stern. She appeared to have a counter. Her stem was very slightly rounded, and was continued for about a couple of feet above the rail. Her foremast raked forward and carried a sail which among lugs would have appeared almost a lateen, and among lateens would certainly have seemed a lug. On the whole, in spite of the length of the yard, it was more lug than lateen, but it had a southern look. The tack came close to the stem. The mainmast raked slightly aft and was almost the same height as the foremast. There was a short main topmast. The mainsail had a short gaff and a boom projecting a few feet over the stern. A jib was set on a running bowsprit.

Her foresail was a perfect example of a lug influenced by the conditions and traditions of the south, or of the way the lateen becomes transformed as it approaches the north.

No English or Scotch luggers now have three masts, but some French boats do, and in 1915 I saw a few three-masters near Dunkirk, not, however, near enough for accurate observation. They were small craft, perhaps thirty-five feet long, and appeared to have square sterns. A slightly steeving bowsprit which seemed to lie several inches below the gunwale carried a large jib. The foremast was three or four feet abaft the stem, and the foresail appeared to be a dipping lug. The mainmast was much taller than the fore, but the mainsail and foresail were nearly of a size. The mainsail appeared to be a standing lug. Its tack came close to the mast. A large main topsail was carried with its yard more peaked than the mainyard. The mizen was a very small triangular sail set on a little mast stepped right aft. It was sheeted to a bumkin (fig. 212 shows the rig, but in a larger craft than those I saw. I had no photograph or accurate sketch).

French men-of-war carry boats about the size of our pinnaces, rigged as three-masted luggers and carrying a jib (fig. 213). The foremast and mainmast both rake aft, the main more than the fore, and each carries a dipping lug. The foremast is far forward and the mainmast amidships. The main tack comes nearer the mast than does the fore. The mizen-mast is stepped right aft a little to one side. The sail is a standing lug and sheeted to a bumkin.

I have seen these boats handled in a most seamanlike manner when acting as duty boats for landing liberty men. The French are not afraid of a little wind and seize the opportunity of a blowy day for instruction in sailing.

It will be noticed that the dipping lug is used almost exclusively in fishing-boats and in men-of-war's boats, craft that seem to have little in common. Both, however, have large crews compared with traders, and both therefore retain a form of sail that, in spite of its simplicity and effectiveness, traders, which from motives of economy carry as few men as possible, have nearly abandoned.

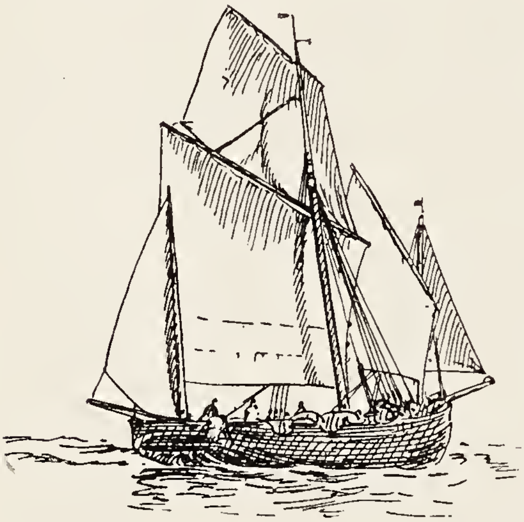

Fig. 212

The standing lug is much used for open beach boats, generally with a jib set on a short bowsprit or iron bumkin. A boom is often used.

The sail is fast replacing the spritsail in Orkney. All the yoles that I have seen carrying it were single-masted.

The Montagu whalers recently introduced into the Navy carry a standing lug (fig. 214). It is called the mainsail, and is loose-footed and fitted with two sheets and a brail. The sheets are not purchased, and getting in the lee sheet is as much as two men can do in a fresh breeze. They carry also a jib-foresail, and on a little mizen-mast stepped through the after grating a leg-of-mutton sail with a boom. They are fitted with centre boards, which in the Navy are called keels, and sail very well. The sail plan is a great improvement upon the old dipping lug and rig. I should have said it was impossible to miss stays in smooth water in one of these boats had I not seen it done.[1] It was a measure of the decay of the sailing tradition. I found a captain's coxswain who thought the centre board was a stabilizing device not to be used in light winds.

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[1] She was an old whaler fitted with the Montagu rig and a centre board, and sailed as well as could be wished when properly handled.

Italian men-of-war have carvel-built boats, corresponding with our cutters, which are rigged with two tall narrow standing lugs on very short yards (fig. 215). The foresail is loose-footed and is set to port, the mainsail has a boom and is set to starboard. Each sail has a brail led to the forward yardarm. The mainmast is stepped amidships and rakes aft. The foremast rakes less and so appears the longer. It is stepped far enough abaft the stem to allow a small jib-foresail to be set.

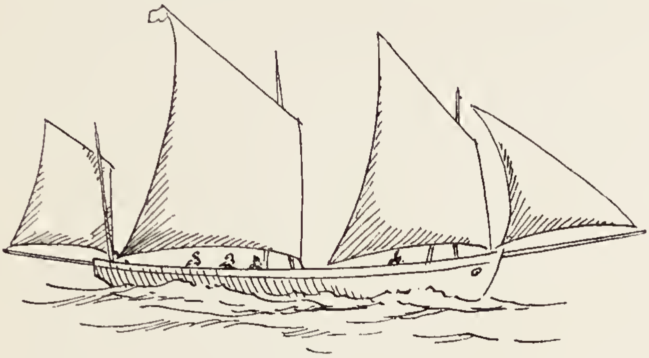

FIG. 213

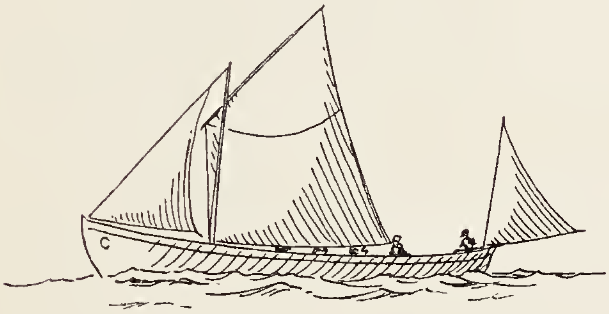

FIG. 214

A balance lug is a variety of standing lug but with more canvas before the mast than has the ordinary kind. It is always fitted with a boom. No line can be drawn between a standing lug of the more usual sort and a balance lug, but, roughly, if any of the boom lies before the mast the latter name may be used. It is a term seldom if ever heard on the lips of any but amateur boatmen, because, in England at any rate, hardly any professional fishermen or 'longshoremen use it.[1] The name is, however, convenient because balance lugs are often seen in the Eastern Mediterranean.

In England the sail is popular for small pleasure boats on inland waters, but the great disadvantage for sea work is that the canvas cannot be quickly reduced. A loose-footed sail can be let fly if the boat is being overpowered. If an ordinary standing lug with a boom is used a jib is generally carried as well, and when its sheet is let go, not only is sail reduced, but what remains will tend to bring the boat's head to the wind. With a gaffsail the tack can be triced up and the peak eased. But with a balance lug the only way of reducing the pressure of the wind is by easing the sheet, and should the squall continue and it be necessary to let the sheet fly, the weight of the boom will prevent the manœuvre giving as much relief as it would were the sail loose-footed. With a boom there is always the danger in a seaway of the sail getting full of water if the boat is heeling and the boom is right off.

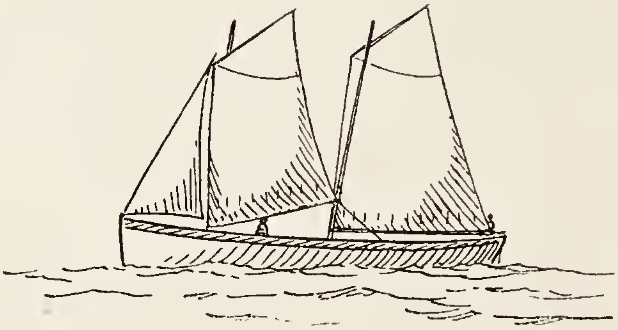

FIG. 215

So different are the conditions in the Eastern Mediterranean from those of the English Channel that East of Malta one of the most popular rigs consists of two masts each carrying a balance lug, with one or two jibs set on a bowsprit either by itself or with a jibboom as well. The rig is used by the Greeks and Italians, and is carried by boats less than thirty feet and by vessels of nearly a hundred feet long. Most of these luggers are about sixty feet in length, and many have such graceful lines and are so well kept that it is a pleasure to look at them (fig. 216).

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[1] A few years ago some tripper boats at Burnham-on-Crouch were rigged with balance lugs and roller jibs.

The form of hull varies. Some have schooner bows and counter sterns (fig. 217), and others, especially the Greeks, have stems delicately curved in the opposite way to schooner fashion, and pointed sterns with raking stern-posts. I have seen a very small one with a transom. The sheer is great and waist cloths are carried between the fore and main rigging.

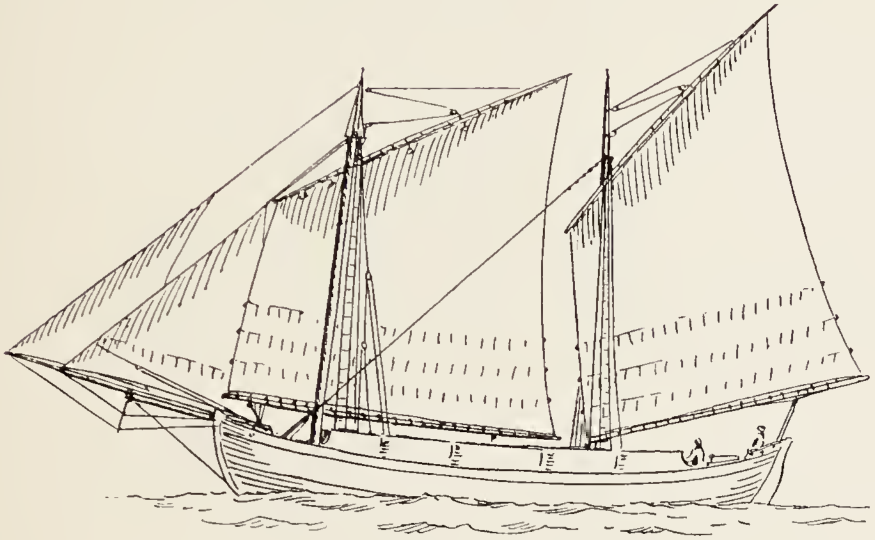

FIG. 216

The gear is not exactly alike in all, but the differences are not great, and are chiefly such as go naturally with the size of the vessel. One curious rule seems based on custom only. It is that those with sharp sterns generally hoist the foresail on the starboard side of the mast and the mainsail to port (fig. 216), while those with counters do the reverse (fig. 217). There are exceptions, but the great majority conform to this apparently inexplicable custom. Both sails on the same side is never seen. The boat with a transom had her foresail to starboard.

The bowsprit is either long or else carries a jibboom the heel of which comes as far aft as that of the bowsprit. When such a jibboom is fitted the forestay on which the jib runs comes not to the bowsprit but to within a few feet of the end of the jibboom. The flying jibstay comes to the end and much of the sail is overlapped by the jib. Both sails are low-footed. The jib has a row of reef points. Sometimes the flying jib is long enough to require a dolphin striker to give purchase to the martingale.

Generally the masts are the same height, but in the larger craft the mainmast is true to its name. I have seen four shrouds aside with ratlines between the two middle ones. Abaft the fore rigging and before the main is a burton on each mast. The mainstay consists of a wire shackled to two feet of chain at the hounds, and set up on the port side of the foremast by a tackle of which the lower block is close to the heel of the bowsprit. The larger craft have crosstrees and masthead shrouds like topmast rigging with the lanyards below the crosstrees and set up to the lower rigging, somewhat as the futtock rigging used to be in ships a hundred years ago.

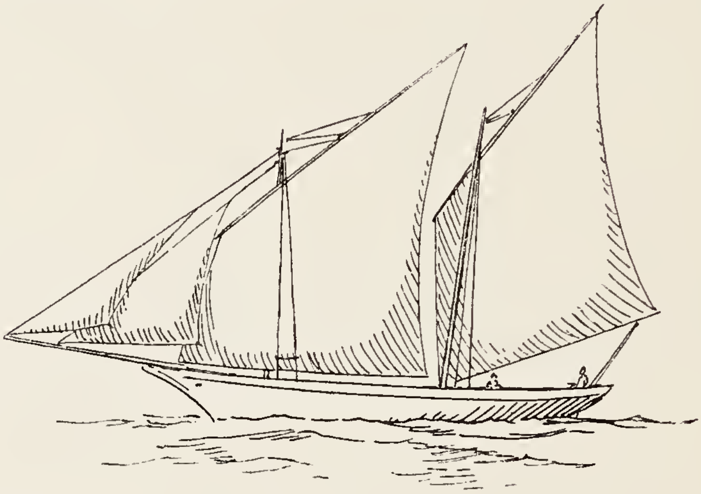

FIG. 217

The foreyard is hung at about a third of its length from forward at such an angle that the peak of the sail is level with, or a little above, the main truck. A lead-line dropped from the fore end of the yard would just clear the stem in some vessels ; in others it would be farther aft. The foot of the sail is laced to a boom which comes as far before the mast as the yard. It is carried sloping aft in a rather ugly way. The lacing is not passed through eyelets in the sail but through eyes hanging a few inches below the foot. The head of the sail is laced to the yard, which is strengthened by fish pieces. The halyards are rove through two treble blocks,the upper of which hangs by a strop put on over the eyes of the rigging. A peak halyard is also fitted with two blocks on the mast at the level of the jib and flying jib halyards, and one block and the standing part on the yard. The tack tackle is near the fore end of the boom. There are three rows of reef points. The tyers or gaskets are carried made up and hanging from the yard as in square-rigged ships. The sails are very well made. Those of the craft I am particularly describing came from Malta.

The mainsail is more like an ordinary standing lug in that its boom reaches but very little before the mast. The mainyard is slung lower than the fore, and the hounds are placed lower on the mast. It is also carried at a more acute angle, and the peak in consequence reaches well above the truck. The boom slopes upwards and looks more shipshape than the fore boom. It sticks out several feet over the stern. The upper mainsheet block is on a long span instead of on the boom itself as is the fore, otherwise the gear of the mainsail is like that of the foresail.

All these luggers steer with a tiller. They are usually painted white relieved by tasteful bands of colour.

Vessels of the same kind, but usually larger and with counters, are rigged like the luggers forward but have a gaff mainsail (fig. 218). Sometimes there is a short main topmast. I saw the rig also at Genoa in 1919. The vessel had a jib-headed gaff topsail set. She carried a single large jib on a long bowsprit. She had a high stem and a rudimentary beak. Though she had a counter her foresail was to starboard.

In England the ordinary standing lug has been developed for pleasure sailing into something which is only a lug in virtue of its ancestry. The sail has become higher and higher in the peak till it has come to be entirely abaft the mast and the yard nearly vertical. Such a sail yachtsmen call a gunter lug, because it is almost what is called a sliding gunter but not quite. The gunter is one of the very few primary sails which is neither a square sail, a lateen, a spritsail, a gaffsail, nor a lug. The Bermudian or leg-of-mutton sail is the only other mentioned in this book.

A gunter is a triangular sail set on a yard which slides abaft the mast by means of two rings one fixed to the lower end of the yard and one higher up.

Since these rings completely encircle the mast a good deal of manipulation is required in setting and stowing the sail. For this reason the true gunter is very rarely used. It is sometimes carried by ships' boats, and I have seen one with two masts on one of which was a gunter, and on the other a gunter lug. In 1918 I saw a little pleasure boat with the sail at Suez (fig. 219). She carried a jib on a bowsprit, and her mainsail, which had a boom, was a gunter.

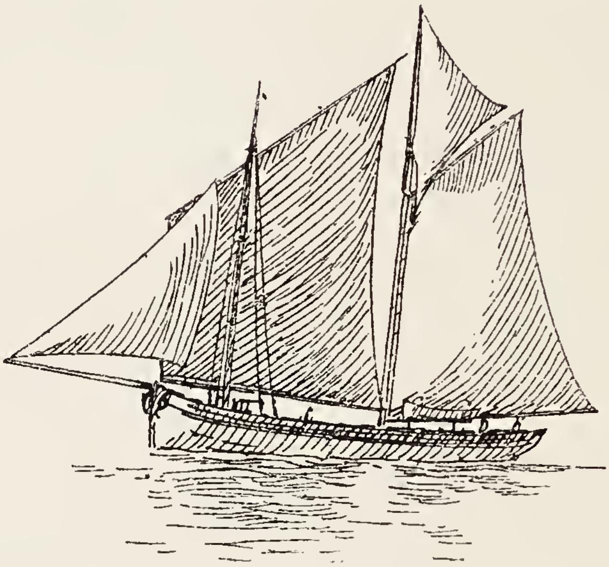

Fig. 218

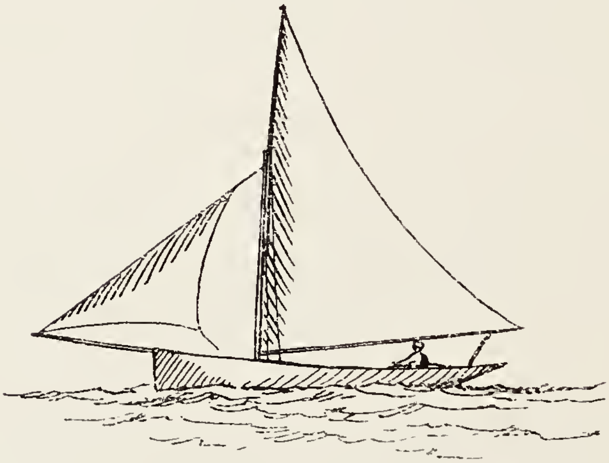

Fig. 219

The yard had a truck at its upper end and a stay or guy led thence to the end of the bowsprit.

The yard of a gunter lug is sometimes kept to the mast by jaws or some similar device at the lower end, and is usually hooked to a traveller like an ordinary standing lug. It does not stand quite parallel with the mast like the yard of a true gunter.

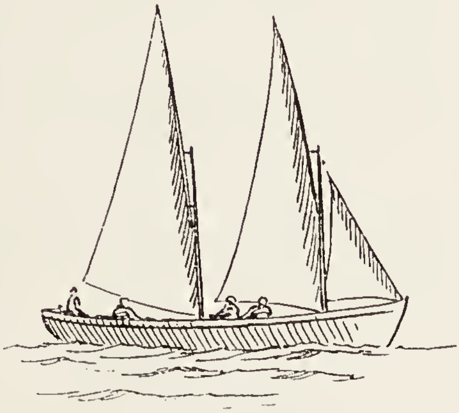
FIG. 220

The French have a man-of-war's boat something like our whalers with two masts each carrying a gunter lug (fig. 220). The masts rake aft, and are spaced and relatively proportioned like those of a schooner. The sails are loose-footed and high in the clew. A jib-foresail is carried.

Whether these sails are descended from lugs may be doubted. They are much like the sails of an eighteenth-century vessel called a *houari* (wherry), and they seem to have been peaked lateens like those described in Chapter III. Whatever their origin these boats' sails are in effect gunter lugs.

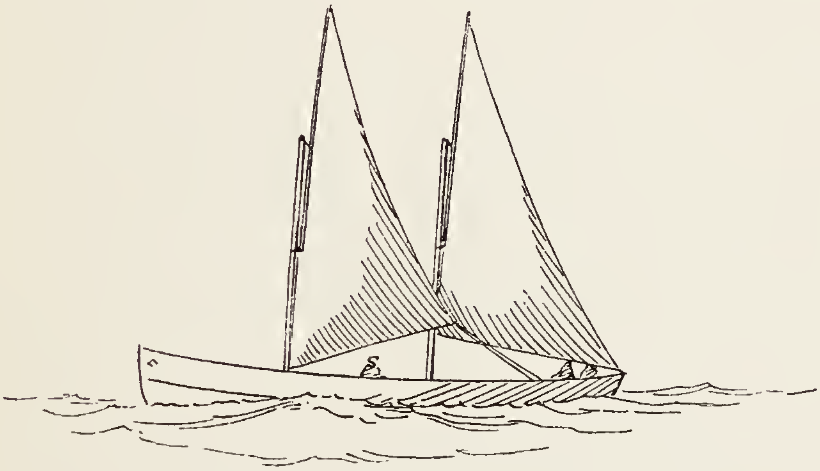
FIG. 221

In the Greek Navy boats about the size of our men-of-war's cutters are rigged with sails of the same kind (fig. 221).

The two masts are of equal height and are stepped near together in the middle of the boat. The foresail is loose-footed and high in the clew and the mainsail has a boom which slopes downwards from tack to clew. There is no headsail, although the foremast is nearly a third the boat's length abaft the stem, and the rig looks ugly and unfinished. One would imagine that the boats must gripe for lack of headsail and be liable to get in irons.

The objections to a dipping lug are obvious, but nevertheless it is a powerful drawing sail. It therefore occurred to somebody to do away with the need for dipping while retaining the advantages. The result was the split lug. It is like a dipping lug cut in two at the mast. The forepart is fitted with a couple of sheets like a jib, and the luff of the afterpart runs on the mast with hoops like a gaff-sail. One halyard hoists the two sails (fig. 222).

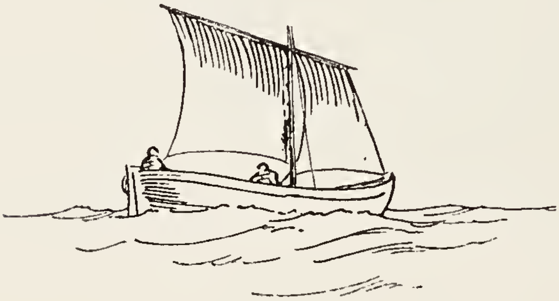

FIG. 222

It is the kind of ingenious device that a fisherman would never adopt. The forepart is not so useful, and does not set as well as an ordinary foresail, nor the afterpart as an ordinary standing lug. And it is more trouble to set because the luff of the afterpart has to be bent to the mast hoops. Its only advantage over a dipping lug is that it does not require to be dipped, and over a standing lug and foresail, that there is one halyard instead of two.

It was probably designed by a big ship sailor unaccustomed to boat sailing, or in an office.

In 1918 I saw some ships' boats with this curiosity set in Lake Timsah, through which the Suez Canal runs. They sailed better than might have been expected, but the defects were obvious.

The lugsail, the dipping lug especially, belongs to a race of seamen amongst whom the sailing tradition is vigorous. Where the tradition is lost or in decay the lug falls out of favour. The British Navy is giving it up, and as motors increase in numbers fishermen will abandon it too.

VIII

THE FUTURE

As no human activity nor any contrivance which embodies it can be understood without some knowledge of its past, so the study of anything that belongs to the present, to be complete, demands a consideration of the future. The result of speculation upon what is to be cannot be more than an opinion, but it is legitimate and useful both to express it and to show upon what grounds it rests.

I believe sailing vessels to be doomed to rapid and complete extinction from the largest to the smallest. The reasons for this belief are that their numbers grow less every year, and that the whole calling of the sailor is in evident decay and has passed the point beyond which revival is impossible.

Is this decrease likely to continue ? It is likely for the following reasons:

The principal uses of ships are for war, for commerce, including the carriage both of passengers and goods, for whaling and fishing, and for state and pleasure.

Vessels are also employed for training for war and commerce, for pilotage, towing, salvage, life saving, observing the weather, laying telegraph cables, survey, and discovery.

The Crimean War showed that ships depending wholly on sail were thenceforth unfit for the ordinary purposes of war, and from the time of that discovery the use of sail has steadily declined in all navies.

It is true that in the late war vessels relying mainly, and a few entirely, on sail were used, but they were all decoys and their usefulness depended on the existence of sailing craft engaged in peaceful occupations.

The future use of sails in men-of-war therefore stands and falls with their use in other kinds of vessels.

No sailing ships, and very few boats, are now employed solely or principally for carrying passengers, and since in this traffic speed and regularity are particularly desired it is in the highest degree unlikely that there will be any return to sail.

A great many vessels depending entirely on sails are still occupied in the carriage of goods. They are probably more numerous than the steamers, even if those of China be not counted. But they are far less important. Most of them are small and engaged in local trade. The larger are not only smaller on an average than the steamers, but because of their slow speed make fewer voyages and therefore carry less cargo in a year than steamers of the same capacity. Their relative part in the trade of the world is comparable with the share of horse-drawn traffic in the economy of the land. Wagons drawn by horses are still plentiful, and in some parts of London surpass in numbers the mechanical vehicles,[1] but the vast bulk of inland carriage is by steam and petrol.

Not only are sailing vessels for the most part small and unimportant, but their numbers steadily diminish, and petrol is helping their decline.

The introduction of the small auxiliary engine appears to offer hopes that sails may still be used in conjunction with power. The first effect probably has been to check a little their abandonment in favour of steam, but the pause is only for a time. So small an engine will give a speed which exceeds the average attained during a passage under sail that its installation invariably leads to the sails of an auxiliary being used less and less, with the result that the vessel comes to be regarded as primarily driven by her screw. The less men use sails the less they will be able to use them, and their tradition will decay.

Almost the same is true of whaling and fishing vessels. The sailing whaler has probably disappeared entirely, and few auxiliaries are now in use. The modern whaler is a small steamer like a steam trawler.

Among the largest fishing-vessels steam trawlers have driven most of the sailing trawlers off the sea. All the Grimsby fleets are steam. The sailing trawlers that remain generally have local grounds to fish and do not compete with the steamers. Motors are likely to cause their decay in a few years.

Many drifters are steamers and nearly all the large sailing drifters now have motor engines. To-morrow it will be more true to say that the motor drifters sometimes set a little canvas.

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[1] Written in 1919.

Even small beach boats have motors now, but it is possible that the great increase in their cost may hinder their adoption for a time. Sails will probably be used in fishing for a longer time than in commerce, but it is unlikely that they will survive more than a few decades, for fishing is a trade in which speed and punctuality are not less desirable than in other branches of commerce.

For state sails have been abandoned. All royal yachts which are not purely pleasure vessels are steamers.

For pleasure the continued use of sails might be thought assured even if for all other purposes they are to be laid aside.

It is probable that for some time yet sailing yachts for cruising and racing will be built. Already however, nearly every new cruising yacht is fitted with a motor, and though the yachtsman has less temptation to use it on all occasions than the professional sailor, even the most ardent amateur will weaken at the prospect of a long turn to windward when he knows that he can make his port direct under power. Motors will be more and more relied upon and seamanship will decay.

But what of the racing yacht ? She exists purely for sailing and from her nature cannot be driven in any other way. Will not she at least preserve in the coming mechanical times something of the seaman's art, of that sense whereby the vessel becomes an enlargement of a man's body and his brain receives impulses from the tiller and the sails ?

For a time the racing yacht will still be the mariner's swallow and pledge of summer. She may outlast all other bottoms drawn ' by the creeping and invisible wind ' but she too seems doomed. Already large yachts are comparatively few. Sports and pastimes, as distinguished from games, are shadows and idealized forms of useful activities. When the reality ceases to exist its pretty counterpart cannot long outlive it. Archery is practised only by a dwindling few and no one tilts at the quintain. Much less will men be found to spend hundreds or thousands on sailing yachts when all other sails are gone. Flying and fast motor-boats will feed the same desires that the yachts were built to satisfy.

Nor do the other uses to which vessels are put hold any hope for the survival of sails.

It is true that sailing training in the Navy was retained long after masts and yards had been abandoned by all but a few sloops and gunboats. Some foreign navies have not given it up even yet, and it is probable that even when there are no longer any large sailing merchantmen, boys will still be sent to sea in sailing ships to acquire the resource and handiness that a training in such vessels gives. But that this will continue for long is most unlikely. While the old tradition lives, and a generation is active that was brought up to think of sail as an important factor in commerce, an education in the old art will be thought advisable and its benefits will be understood; but when a new generation grows up to whom the handling of sails was merely a lesson, and which has never known them used otherwise, the advantages of their old-fashioned training will be less obvious, and with the increasing demands of more scientific knowledge it will be dropped. It will be given up partly because boys will not have time to spare for the acquiring of a moribund art, and partly because when it has become merely an exercise it will no longer awaken the interest and pride that it did when the handling of sails and of ships under sail was the most important part of a seaman's profession. So the training will decline in itself as well as in its relative value and will be rightly discarded as useless.

So much is there for a Naval man to learn that it is questionable whether it is worth retaining boat sailing as part of the education of the bluejacket. It enters so little into his life and seems so unimportant that he seldom troubles to acquire any skill therein. If sailing boats are to be used at all, a special rating of boatman open to all branches of the service might well be instituted. Men who had earned a boatman's badge would take pride in handling sailing boats and their usefulness would be increased. If something of the sort is not done the sails of the boats bid fair to follow those of the ships. It may be necessary, but it will be a pity.

The remaining functions are even less promising for the continuance of sail.

The vessels used in connexion with pilotage are ships laying and taking up buoys, lightships, and pilot boats. Only the last are worth considering, since buoy laying is obviously best performed by a steamer and lightships are stationary. Some sailing pilot boats will probably remain for a little, but everywhere is a tendency to replace them by steamers. Their time is short.

Towing and salvage work, save such of the latter as the Deal galleys attend to, are work for steamers only. Lifeboats are being fitted with motors. Ships for observation may carry a little canvas to make them heave to in greater comfort, but they will never be sailing ships. For laying cables and surveying, in which it is of the first importance to be able to place the ship in an exact position, only steamers can be used.

For discovery sails are useful, since the exploring ships have to go beyond the reach of fuel supplies, but of course all have steam or other power, and with improvements in internal combustion engines sails will be less and less used for this purpose also. The tendency is clearly to be seen.

In all classes of ships and boats sails have already been given up, are in process of abandonment, or exist under threat of being supplanted.

One sailing vessel and one only appears to be necessary for the future, a ship for naval historians and archaeologists. I mean it seriously. No man can follow the naval campaigns and battles of the past or understand the development of the ship unless he realizes the limitations of sail and the difficulties with which the seamen of former ages had to contend.

It is true that men who were not sailors have studied these subjects and have written admirably upon them, but they lived in the blaze of the old tradition. When James the historian wrote, every one knew what was implied by a foul wind, and the difference between saving and missing a tide. Macaulay tells how Londoners watched the weathercocks for signs of a Protestant wind. But now all is changed.

The number of people able to realize how the ships of the Armada were saved from destruction on the Zealand banks by a shift of wind at the last moment, or who can grasp what Anson had to contend with, or appreciate the splendid daring of Hawke is much smaller than it was a hundred years ago, and history will deteriorate unless its tellers experience something of the difficulties and hazard that used to be taken as a matter of course.

I once had occasion to tell a newspaper man that a certain vessel would sail from the Elbe to Terschelling. 'Oh, only a few hours run', said he, and could hardly be made to understand that the passage might take a week. In his experience ships kept time like trains. He had read of vessels being wind bound and delayed by foul winds and calms, but the phrases meant nothing to him.

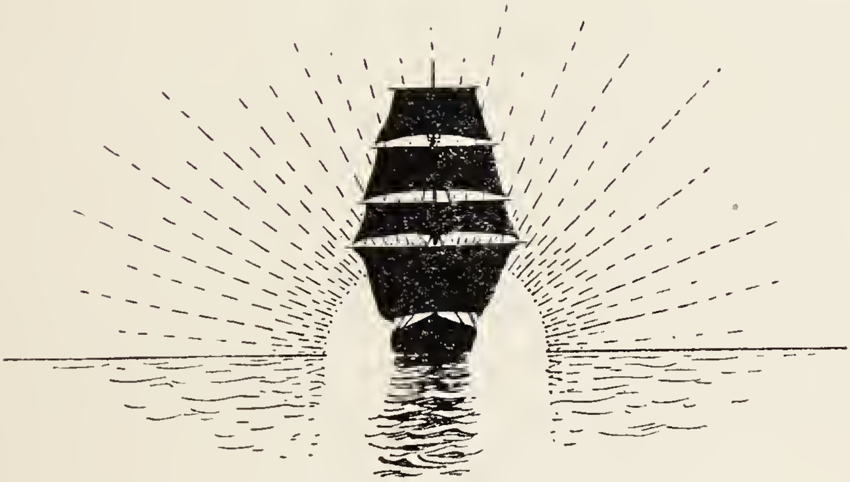
I like to think of the *Clio*, in the year 2000, backing her main topsail—I hope she will be a brig—to wait for the pilot to come off and take her into Rye.

One possibility is worth considering. If civilization breaks down, mechanical ability may deteriorate and men be driven to simpler devices again. It is unlikely that a world-wide system will fail entirely, but it is not impossible that the genius which is now occupied mainly in inventing and improving machinery may flag and seek to refresh itself in other labours. Then might men turn again to the wind for aid. Nothing less than the failure of the race can revive that which once produced such able individual men.

The conclusion is a sad one. I confess to being a *laudator temporis acti* where sailing vessels are concerned, not from a pretence that it would be possible or even desirable to return to their use, but because they bred a fine type of man skilled in a beautiful art. It is tragic for an ancient state to be dissolved, and all can feel the tragedy because we group men in our thoughts according to their political divisions. It is possible to separate them by occupations instead of countries, and the classes so formed are realities and their members have a kinship of method and outlook that makes them different from other men. One of the greatest and most ancient of such brotherhoods is coming to an end.

Another reason for regret is the loss we sustain of something beautiful and ancient. Few devices of mankind as a whole surpass in beauty the sailing ship, and her use links us with the earliest recorded times. It is impossible to lay aside without a twinge of sadness an instrument that has served the race for so long.

The end will not be sudden. Here and there in little lonely havens and about the coasts of a few primitive lands the white sea wings will linger awhile, but not for long: the old things are going from us. These are the last days.



GLOSSARY

This glossary gives explanations of words of which the meaning is not made clear in the text. Self-explanatory words like ‘ outhaul ’ are not included.

ABAFT, *preposition,* nearer the stern than the object referred to, used only of something in or upon the ship. The opposite to abaft is before.

It was formerly used as an adverb of position, where we should now say ‘ aft ’. In this sense it has become obsolete along with its opposite ‘ afore ’.

ABEAM, of the wind, blowing against the vessel’s side at right angles to her keel.

ABOUT, putting a vessel about is bringing her from the starboard to the port tack or *vice versa.* See TACK.

ACROSS, *adverb of position,* used of the yard of a square sail when aloft in its proper place.

AFT, *adverb of position,* used either relatively or absolutely in the sense of towards the stern of something in or upon the ship.

AFTER, *adjective,* of or belonging to the stern end of the ship. It is also used relatively : thus the after funnel might not be in the after part of the ship.

ALOFT, above the deck, up the mast, or in the rigging.

ANGULATED SAILS, sails cut with the cloths meeting chevronwise along a line running from throat to clew in a gaffsail and from clew to the luff in a jib.

ATRIP, used of the anchor, touching the ground but not holding. Formerly a sail hoisted right up was said to be atrip : ‘ with your anchor aweigh and your topsails atrip.’ Old Song.

BACK, of a sail, to put it in such a position that the wind by blowing against it does not propel the vessel, but hinders or stops her way or drives her head into or away from the wind.

BACKSTAYS, ropes which give support laterally and from aft to the topmasts and topgallant masts. Backstays to the lower mast are not fitted in ordinary ships nowadays.

BALE SLING FASHION, a way of arranging a long strop or bight of rope by which a spar or other object hangs. A double loop is made round the object by passing both parts of the strop or doubled rope through the bight.

BEAM, the breadth of a vessel at her widest, i. e. at the main beam, the largest timber reaching from one side to the other.

BEAR AWAY, to turn a vessel’s head away from the wind by bearing up the helm. Thus if the wind were at N., and the ship were heading due E., and she was then steered towards the S.E., she would have borne away four points.

BEAT, to sail to windward by a series of tacks.

BELAY, to secure or make fast a rope.

BIGHT, the concavity of a loop or curve of rope, and also the part of a rope between the ends. Hence to call a man ' both ends and the bight of a . . . fool ' is a complete condemnation.

BILGE, that part of a vessel's hull where the bottom merges into or meets the side.

BLOCK, a pulley in a shell of wood or iron.

BOARD, almost the same as ' tack ' in the sense of a short passage under sail. A stern board is a short movement astern.

BOBSTAY, the principal rope fortifying the bowsprit. It leads from the stem to the bowsprit end or near it. The method of fitting varies.

BOLLARD, a short vertical post to which ropes can be attached.

BOLSPRITE, an early corruption of bowsprit, the use of which led some people to write the word ' boltsprit '. The ' Challenger ' of the Trinity House at Newcastle, with whom I had a conversation in 1916 always used the form ' bolsprit '.

BOLTROPE, the rope sewn to the edges of sails.

BOOM, a spar for spreading the foot of a sail. The lower boom of a man-of-war at which her boats ride is so called because the lower studding-sail boom was first used as a boat boom.

BOOT TOPPING, a band of paint at the water-line. Formerly boot topping meant cleaning the ship's side at the water-line and coating it with a mixture, the resulting bands being called ' boot hose tops '.

BOWLINE, a rope used to keep taut the weather edge of certain sails when sailing close hauled.

A rope by which the after edge of a stay foresail is controlled and by which the sail is held aback in order to pay off the vessel's head when she has gone about is also called a bowline.

A loop of rope made in a particular way.

BOWSE, to set taut.

BOWSPRIT, a spar projecting forward beyond the stem on which various jibs and staysails are set according to the type of vessel.

BRACES, ropes made fast to the ends of the yards on which square sails are set, by which they are turned horizontally.

BRAIL, a rope for gathering up a fore and aft sail.

BRIDLE, a short span of rope.

BUMKIN, i. e. boomkin, a spar projecting from a vessel's stern to give a lead for the mizen-sheet. Fishermen usually call such a spar the mizen-boom, which is a better name because in fishing-boats it is commonly very large and ' bumkin ' is a diminutive.

A very short projection of iron or wood at a boat's stem to spread the tack of a jib, or a lug.

In the sailing days of the Navy, and formerly in the Merchant Service, the fore tack bumkin was a short boom on each bow carrying the block through which the fore tack passed.

BUNT, the middle part of a sail.

BUNTLINES, ropes used to control a square sail, especially preparatory to furling it. The method of fitting buntlines varies somewhat according to the sail to which they belong, but, speaking generally, they lead from the deck through blocks on the mast, or beneath the top, through blocks on the yard, and then down before the sail to the foot where they are made fast.

BY THE WIND, almost the same as close hauled.

CAMBERED, curving upwards convexly.

CAP, a fitting of wood or iron by which a topmast is kept secure at the lower masthead, or similarly a topgallant mast at the topmast head, or the jibboom to the bowsprit end. The part into which the masthead or bowsprit end fits is rectangular, and the part which holds the moveable spar is circular, or contains a circular hole.

CARVEL BUILT, with the planks of a vessel's sides laid even and not overlapping as those of a clinker built vessel do.

CATHEADS, timbers or irons projecting over each bow from which the anchor hangs after weighing before it is fished or stowed in its proper place.

CEILED, lined with an inner skin called the ceiling ; used of a ship's hold. The shore-going ceiling covers the inner side of the joists just as the nautical ceiling covers the timbers.

CENTRE BOARD, a board or plate pivoted at one end, and with the other movable so that it can be lowered, from the water-tight trunk in which it rests, below the vessel's bottom. It acts like a keel in preventing lee way.

CHANNELS, projecting structures of wood on a ship's side which spread the shrouds and to which the lower deadeyes are attached. ' Channel ' is short for ' chain wale ', a name which arose from the lower deadeyes being formerly secured by chains.

Channels are seldom fitted nowadays.

CHINE, the sharp turn of a barge's bilge.

CLEAT, a fitting of wood or iron, generally with two arms, to which ropes are made fast.

CLEW, each lower corner of a square sail ; the after lower corner of a fore and aft sail.

CLEWGARNETS are to the courses what clewlines are to the upper sails. See CLEWLINES.

CLEWLINES, ropes by which the lower corners (clews) of the upper square sails are hauled up to the yards, preparatory to furling. Clewlines lead from the deck up on the after side of the sail through a block on the yard—nowadays usually at the yardarm—then through a block at the clew of the sail and then to the yard where the end is made fast.

CLINKER BUILT, with the edges of the planks of a boat's side overlapping, the upper over the lower.

CLIPPER, a fast sailing ship built with very fine lines.

CLOSE HAULED, the condition of a vessel relative to the wind when her sails are trimmed so as to enable her to sail to windward.

CLOSE WINDED, able to sail close to the wind, that is, able to point and make way in a direction near to that from which the wind is blowing.

CLOVE HITCH, two half-hitches made not round the rope itself but round something else.

COAMING, the raised sides of a hatchway or skylight.

COG, a tubby medieval ship.

COMPANION, a ladder leading below from an opening in the deck, which is fitted with a cover to prevent rain from getting in. The cover is often fitted with a sliding hatch.

COUNTER, the overhanging part of the stern that projects abaft the rudder.

CRINGLE, a becket or loop of rope worked in the bolt rope of a sail.

CROSS TREES, pieces of wood or iron projecting on either side of a masthead to give purchase to the rigging—generally to the rigging of the mast above. In ships with tops the cross-trees help to support the tops.

DAVIT, pronounced dayvit : formerly the word was used only for the fish davit used in stowing the anchor, then it became applied to timbers from which boats were hung, and hence to the comparatively recently introduced curved irons now usual.

DEADEYES, wooden blocks, generally circular, with three holes through which the lanyards by which the shrouds and backstays are set taut are rove. In the circumference of the deadeye is a groove which, in an upper deadeye, takes the end of the shroud or backstay, and in a lower deadeye the iron by which it is secured to the ship's side or the rim of the top, or the like.

Screws are commonly used nowadays instead of deadeyes and lanyards.

DEAD WATER, the water that eddies behind and follows a broad or flat stern.

DOLPHIN STRIKER, a spar or iron projecting downwards from the end of the bowsprit, by which the martingale and other stays which lead beneath the jibboom are given purchase.

DUMB SHEAVE, a half sheave that does not revolve, or simply a hole in a spar through which a rope plays.

ENTRY, the narrowing of a vessel's underbody towards the stem.

EYES OF RIGGING or of stays, the loop at the upper end which encircles the mast.

EYE SPLICE, an eye or loop in a rope made by bringing the end back and tucking the strands between those of the standing part at the position determined by the size of the loop required.

FAIRLEAD, a sheave hole or other contrivance whereby a rope is led clear of obstruction or in a direction more favourable to the application of force.

FALL, the free end of a rope or purchase, and also the moving parts of a purchase or tackle.

FISH PIECE, or, more properly, FISH, a strengthening piece lashed to a spar.

FLARE, to overhang outwards, used of a vessel's sides.

FLUSH DECKED, having the upper deck level from stem to stern, and without any raised deck such as a topgallant forecastle or poop over it.

FOOT, the lower edge of a sail.

FOOTROPE, a rope hung loosely by both ends beneath a yard for men to stand on when loosing and furling sail or the like.

FOOTSTICK, a light spar to which the foot of a jib or staysail is laced in some vessels.

FORECASTLE, the forepart of a decked vessel within board, but not including the hold. The exact significance varies in different classes of ship.

FOREFOOT, strictly the fore part of the keel, but it is used loosely for the lower part of the stem.

FRAMES, the timbers or ribs of a vessel.

FURL, to fold and tie up a sail while leaving it bent, so that it catches the wind as little as possible.

GAFF, a spar for spreading the head of a fore and aft sail. It is carried at an angle with the mast against which its fore end rests, and is kept in position by jaws or some similar device.

GAFF TOPGALLANT SAIL, a fore and aft sail sometimes set above a gaff topsail, very rare.

GAFF TOPSAIL, a fore and aft topsail, with or without a yard, having its foot spread by a gaff.

GAMMON IRON, an iron ring near the stem through which in small craft the bowsprit passes.

GASKETS, lengths of plaited stuff by which sails are secured when furled.

GOOSENECK, an iron contrivance by which one spar is hinged upon another, or upon some other support.

GOOSE WINGED, with fore and aft sails set on each side before the wind.

GRIPE, to require much weather helm.

GUDGEONS, irons with a vertical hole in the end by which the pintles of the rudder are held.

GUNWALE, pronounced gunnel, the uppermost plank of a boat's side.

GUY, a rope or gear for steadying a spar or for moving the end of it horizontally.

GYBE, to allow a gaffsail or similar sail to swing from one side to the other when the vessel is before or nearly before the wind. If the sail is on the starboard side and the wind shifts a little and blows over the starboard quarter, a gybe becomes necessary.

HALYARD, the rope or gear by which a sail, or flag, is hoisted. When the yard, whether of a square sail, a lug, or a lateen sail, hangs from a tye the halyard is a purchase attached to the lower end of the tye.

HANDSPIKE, a wooden lever with one end square, used for turning the barrel of a windlass.

HANKS, the rings by means of which staysails and similar sails run on their stays.

HAWSEHOLES, holes in the bows through which the anchor cables are led.

HEAD, the forepart of a ship, considered not structurally, but locally. Thus the question will be asked, 'how's her head?' meaning 'in which direction is the ship heading?' Formerly the head was the openwork structure built out beyond the bows and stem.

Also the upper edge of a sail with four edges, and of a triangular sail such as a lateen if it is attached to a yard. The upper corner of a triangular sail that is not attached to a yard.

HEAD SAILS, the jibs and staysails of the foremast, and sometimes the square sails of the foremast.

HEAD STAYS, the stays of the foremast.

HEAD YARDS, the yards of the foremast.

HEAVE TO, of a vessel, to lie nearly stationary with the sails so arranged that they counteract one another, also to lie in bad weather under a trysail, main lower topsail or other small sail, so as to keep the weather bow to the sea.

HEEL, the lower end of a mast, bowsprit, or jibboom.

HELM, the tiller. Even if there is no tiller the orders are given to the helmsman as though he were steering with one.

HORSE, a rope, timber, or iron running transversely across the deck on which by means of a block or ring the sheet of a sail can slide from one side to the other.

HOUNDS, cheeks at the masthead to support the eyes of the rigging. In small vessels hounds often contain a pulley or sheave. The old meaning of the term was a sheave hole.

HULLING, lying with sails lowered at sea but not anchored, probably obsolete because the practice has almost become so.

IN IRONS, the plight of a vessel that is head to wind and cannot pay off.

JACKASS BARQUE, not an exact term. It is used of a vessel which in her rig resembles a barque but which has not a main course. A barquentine or a three-masted schooner with square canvas on the main topmast might be so called. Such rigs are hardly ever seen nowadays save occasionally in steamers with auxiliary sails.

A very beautiful jackass barque was the late Mr. Benjamin Leigh Smith's *Eira*, lost in the Arctic regions in 1881. She had tall lowermasts, topmasts and topgallant masts in one, and single topsails. She lacked a main course, having a gaffsail instead.

JACKSTAY, a bar or wire on the top of a yard to which the sail is attached. Also a rope made fast to the luff of a fore and aft to topsail which, by being rove through a thimble in a strop which encircles the topmast, keeps the luff of the sail close to the mast.

JACKYARD, a little spar attached to the after part of the foot of some fore and aft topsails, which are larger than permits of their being properly sheeted without it.

JIB, a triangular sail set on a bowsprit or jibboom. In small craft a jib is usually set flying. In larger vessels it runs on a stay.

In vessels square-rigged forward an inner and outer jib are usually carried on stays leading to the fore topmast head, and beyond them a flying jib on a stay leading to the topgallant masthead.

In topsail schooners the standing jib and boom jib run on stays leading to the foremast head and the flying jib stay leads to the fore topmast head.

A jib topsail is a jib-headed sail set on the fore topmast stay of yachts, high up. Ships used to carry a sail similar in appearance.

JIBBOOM, a spar rigged beyond the bowsprit, very much as a topmast is fitted above a lowermast.

JIBHEADED, triangular, with a head like a jib. Used principally of gaff topsails.

JIGGER MAST, a little mizen-mast ; also the fourth mast of a four-masted vessel.

JILLING, a bargeman's term for what is usually known as dredging, drifting with the tide with the anchor dragging so that by making the vessel go more slowly than the tide, she can be steered.

KEELSON, a structure like an internal keel laid upon the floor timbers.

KNEE, a stout piece of timber or iron so shaped as to admit of its connecting two structures placed at an angle one to another.

KNIGHTHEADS, stout timbers standing next the stem.

KNITTLES, the pieces of small stuff by which a boat's sail is bent to the yard.

LANYARDS, ropes or pieces of line by which certain larger ropes are set taut, see DEADEYE.

LEEBOARDS, pronounced by bargemen by whom they are chiefly used in this country, leeb'ds. Flat structures generally of wood attached to the sides of certain vessels of light draught. That which is on the lee side, by being lowered till it projects beneath the vessel's bottom, acts as a keel and prevents her from being driven to leeward when sailing close hauled.

LEECH, each vertical edge of a square sail and the after edge of a fore and aft sail.

LEECHLINES, ropes used to control a square sail, especially preparatory to furling it. They are led from the deck through blocks aloft, which vary in position according to the sail to which the leechlines belong, thence through blocks on the yard down before the sail to the leeches or vertical edges where they are made fast.

LEE WAY, the extent to which a vessel is driven to leeward of her course.

LEG-OF-MUTTON SAIL, any three-cornered sail, but more particularly one set abaft the mast like a gaffsail.

LIFT, a rope supporting a yardarm.

LINE, a rope.

LINES, the curves of a vessel's hull.

LIZARD, a short length of rope or wire with a thimble spliced into one end at least. Generally used as a fairlead. One or more lizards hang from a man-of-war's lower boom for boats to make fast to.

LUFF, the fore edge of a fore and aft sail, except a lateen in which the head joins the foot, and the weather leech or edge of a square sail. The luff of a fore and aft sail is always the luff, but the luff of a square sail changes every time the ship tacks. Before the wind a square sail has no luff.

To luff is to put the helm down and so bring the vessel's head nearer to the wind.

LUFF TACKLE, a tackle having a double and a single block. In the R. N. each block must have a hook for the tackle to be called a luff.

MAKE SAIL, to set or spread sail.

MARTINGALE, a stay that does for the jibboom what the bobstay does for the bowsprit, viz. supports it against strains which tend to bend it upwards.

NAIL SICK, the condition of a vessel when the nails by which she is fastened no longer hold securely.

PAINTER, the rope by which a boat is made fast when afloat.

PARREL, gear for keeping a yard or gaff close to the mast. The word is probably a corruption of ' apparel ' that is gear. See TRUCK.

PAWL, a piece of metal that clanks over the ratchet of a windlass when the barrel is being turned the right way, and which prevents its turning in the contrary way by engaging against a tooth of the ratchet directly the motion is reversed.

PAY OFF, used of a vessel's head, to turn away from the direction in which the wind is blowing, or to cause so to turn away. The action of the wind is implied; a steamer altering course to leeward is not paying off.

PEAK, the upper after corner of a gaffsail, lug, lateen, or spritsail. Used adjectively of anything connected with the peak, as the peak lashing, or peak halyards. *Verb*: to bring the yard or gaff more nearly vertical.

PENDANT, pronounced pennant, a length of rope or wire to which the upper block of a purchase is attached and through which the power of the purchase is directly applied.

Also a long narrow flag or streamer.

PERPENDICULARS, imaginary lines perpendicular to the keel, passing through the middle of the ends of the stem and stern-post, used for calculating tonnage.

PINTLES, iron pins or bars by which the rudder is attached to the stern.

PORT, a large artificial opening in a vessel's side, usually to point a gun through. The small round scuttles are coming to be called ports. Painted ports are black squares on a band of white along a vessel's side, resembling the port lids of the old sailing men-of-war.

POST CAPTAIN, a four stripe naval captain distinguished from a commander. The term, though officially obsolete, is still often heard. In the days when the rank of commander implied an independent command only, before 1827, commanders were officially, as they are still by courtesy, addressed as captain. Hence the necessity for a distinguishing term for the higher rank.

The word ' post ' originally referred to the captains' names being posted in the list of those entitled to half pay.[1]

PRAM, a boat in which the planks instead of ending forward at the stem are gathered together so as to form a tapering bow, and end in a piece of wood like the transom at the stern but much smaller.

PREVENTER, *adjective*, applied to gear intended to act as a substitute for, or as an additional support to some other fitting.

PUDDENING, a soft lump made of old rope and the like to prevent chafe and galling.

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[1] I am indebted to Mr. Carr Laughton for this information.

QUARTER, the after part of a ship's side.

RAKE, to slope, used generally of a mast or of the stem or stern. If used unqualified of a mast it means to incline towards the stern, from below upwards. A raking stem is one that inclines forward from the keel and a raking stern, one that inclines aft from the keel.

RATLINES, small ropes made fast horizontally to the shrouds to serve as the rungs of ladders for going aloft.

REACH, to sail with the wind abeam, or nearly so.

REEF, to reduce the area of a sail by tying up part of it.

The part of a sail designed to be gathered in at a single operation of reefing when that operation is complete.

Also, the row of reef points or eyelets, and their cringles, whether the sail is reefed or not.

REEF POINTS, small pieces of rope hanging on each side of a sail by the tying together of which it is reefed.

REEVE, to pass a rope through a block or sheave hole.

REFUSE STAYS, or to miss stays, to fail to go about by staying. See STAY.

RIBS, small elongated pieces of wood pierced with two holes, one above and one below, used in conjunction with, or instead of, the trucks of a parrel.

RIG, the masts and sails and their equipment taken as a whole.

To equip with rigging and sails, or other gear.

RIGGING, besides its general meaning of all the ropes connected with the masts, spars, and sails, rigging also means the shrouds.

RING BOLT HITCHING, a method of covering a ring or any curved iron with spunyarn or the like.

ROACHED, cut in a concave curve, used of the foot of a sail.

RUBBING STREAK, a stout plank bolted to a vessel's sides horizontally for a protection against chafing and bumping.

RUN, the narrowing of a vessel's bottom towards the stern.

To sail before the wind.

RUNNER AND TACKLE, gear which helps to support the mast in some small vessels. The runner is a stout rope passing through a block that hangs by a pendant from the masthead. One end of the runner comes to the deck, to the other a tackle is made fast.

RUNNING RIGGING, the gear by which the sails are hoisted and handled.

SCANT, of the wind, almost foul, so nearly ahead as barely to allow the vessel to sail in the desired direction. This word is probably obsolete.

SCANTLING, the thickness of a vessel's timbers and planking.

SCARPH, to fasten two ends of timber, or of spars, together, by shaping them so that they lie neatly together and overlapping.

SCHOONER BOW, an overhanging bow with a curved raking stem, concave forwards, such as is usual in schooner yachts.

SEIZE, to make fast securely with small stuff. The word is generally used when something is so attached to a rope, or two ropes, or parts of a rope are fastened together with marline, twine, or the like. It is lashing on a small scale.

SHEAVE, a grooved wheel, fitted in a block or spar, over which a rope runs.

SHEER, the fore and aft curve of the gunwale caused by the vessel's being higher at each end than amidships.

SHEET, a rope or tackle by which the lower after corner or clew of a fore and aft sail and both lower corners of square sails are controlled.

Each clew of a lower square sail or course is fitted with a tack and sheet, and when sailing close-hauled the weather clew is controlled by the tack and the lee by the sheet.

SHROUDS, ropes which give lateral support to the masts and bowsprit. In modern square-rigged ships the topmast shrouds have come to be little more than a means of going aloft.

SISTER HOOKS, two connected hooks each with a flat side. They engage in opposite directions and lie with their flat sides in apposition.

SKEG, a short projection from the keel overlapping the fore edge of the rudder.

SKYSAIL, a square sail set above the royal.

SLINGS, the middle part of the yard of a square sail.

SLIP, of the cable, to let go the inboard end and allow it to run out and overboard.

SPINNAKER, a light triangular sail used chiefly by yachts. It is hoisted to the topmast head or its equivalent, and its foot is spread by a boom rigged on the opposite side to the main (or in a schooner, fore) boom.

Bargemen give the name to a light sail set on the topmast stay.

SPRIT, a spar which spreads a sail by passing diagonally across it.

SPRUNG, strained, but not broken in two pieces.

SQUARE, of the yard of a square sail, long.

SQUARE HEADED TOPSAIL, a fore and aft topsail set on a yard hung nearly horizontal.

STANDING PART, that end of a tackle or purchase which is permanently made fast and stays in position, when the purchase is used.

Also that part of a rope next to the free end and to any loop or bight which may be made in forming a bend, hitch, knot, or the like.

STANDING RIGGING, gear which supports the masts, bowsprit, and jibboom. It consists chiefly of the stays, shrouds, and backstays.

STAY, to change from the starboard to the port tack or *vice versa* by bringing the vessel's head into the wind.

STAYS, ropes supporting the masts from forward. Most stays are named after the masts they support, e. g. mainstay, mizen topgallant stay.

STAYSAIL, any sail set on a stay provided it has not a name of its own other than staysail, e. g. a jib. Staysails take their names from the stays on which they are set. Thus the fore topmast staysail is set on the fore topmast stay.

STEEVE, the upward slope of a bowsprit. 'To steeve', used of a bowsprit, to slope upwards from the inboard end.

STEM, the foremost timber in a ship or boat. A straight stem is a stem uncurved and nearly upright.

Stem is also used in the plural to denote the stem and the stern-post: thus 'both her stems were raking'.

STIRRUPS, short pieces of rope by which the bight of a long foot rope hangs from the jackstay on the yard.

STOCK, the crosspiece at the upper end of an anchor. Formerly the stocks of all large anchors were of wood, whence the name.

STOPS, pieces of small stuff easily broken by which a sail is temporarily furled. The sail is hoisted, and when the time for setting it comes a pull on the sheet breaks the stops and the sail is ready for use in less time than if it had been hoisted in the ordinary way.

STRAKES, also written *streaks*, the lines of planking in a ship's sides.

STRANDS, the collections of twisted yarns that form a rope. The strands are twisted in the contrary way to the twist of the yarns.

STROP, usually a grommet (or rope ring), or a short piece of rope with the ends spliced together, used for holding blocks and for other purposes.

STUDDINGSAIL, pronounced stuns'l, a sail set outside a square sail; seldom seen nowadays. In the last sailing days of the Navy, lower, topmast, and topgallant studdingsails were carried at the foremast, and at the main, topgallant studdingsails only. The clipper ships sometimes carried royal studdingsails.

The head of an upper studdingsail was bent to a short yard which was hoisted to the yardarm of the sail from which the stuns'l took its name. The foot was spread by a boom rigged out from the yard below. In the Navy a lower stuns'l had a part of its head only bent to a yard, and this yard was hoisted to the end, of the topmast stuns'l boom. The inner part of the head was hoisted by a halyard leading to the top. The foot was spread by the lower, or swinging boom. The rope attached to the outer lower corner was called the tack, and that to the inner the sheet.

Merchant ships sometimes used to set a triangular lower stuns'l that required no swinging boom.

SWAY UP, to hoist, used especially of the lower yards, and for that reason, since they are fixed aloft nowadays, not often heard.

SWEEP, a large oar.

TABERNACLE, the case in which the heel of a lowering mast rests.

TABLING, a strip of canvas sewed along the edge of a sail to strengthen it.

TACK, *subst.*, the fore lower corner of a fore and aft sail.

The rope or tackle attached to the fore lower corner of a fore and aft sail, or of a lower square sail (course). Its chief use is to keep the luff or leading edge of the sail taut.

Also a short passage to windward either begun or ended by going about. *On the starboard tack*, formerly 'having the starboard tacks on board', the position of a vessel relative to the wind when it blows against her starboard side. *On the port tack*, formerly 'having the larboard tacks on board', the opposite to 'on the starboard tack'.

Verb: to go about by bringing the vessel's head to the wind and continuing the movement till what was the weather side has become the lee.

TAFFRAIL, the rail of the stern.

TAUT, tight, bearing a strong strain.

THIMBLE, a grooved ring of iron or gun-metal, used principally in reef cringles and the strops of blocks.

Some thimbles are heart-shaped.

THROAT, the upper inner corner of a gaffsail or similar sail.

THWARTS, flat pieces of wood crossing a boat athwartships, i.e. from one side to the other, and used as seats. Hence any similar fitting is called a thwart even though parallel with the keel as is the 'sailing thwart' through which the mast is stepped in some open boats.

TOPPING LIFT, a rope or gear supporting the free end of a boom, by which it can be raised if necessary.

TOPSIDES, the upper part of a vessel's planking.

TOP UP, to raise the end of a spar by a topping lift or other gear.

TRANSOM, the 'square' part of the stern, when the shape is such that the planks end in a flat structure like the stern of an ordinary boat.

TRAVELLER, a ring running on the mast by which lugs and other small sails are kept close to the mast in hoisting. The tye or halyard is made fast to the traveller and the yard is hooked on to it.

The clew of a gaffsail is sometimes hooked to a traveller which runs on the boom.

TRIATIC STAY, a rope connecting the corresponding mastheads of two masts. An ordinary stay leads from a higher masthead to a lower, or to the bowsprit jibboom or deck.

TRICE UP, to hoist up the hanging part of a sail, tackle, or the like that is already suspended.

TROW, a flat sterned craft used in the Severn, usually ketch-rigged nowadays.

TRUCK, the circular piece of wood at the top of the mast. In it is usually a sheave for flag halyards.

Trucks are also lignum vitae beads, which, strung on a short piece of rope make a parrel. The use of a parrel is to keep a gaff or yard close to the mast whilst permitting it to be hoisted and lowered with ease.

TRYSAIL, a fore and aft sail, with or without a gaff, set abaft a lower mast already carrying, or capable of carrying, a sail named after it. Thus a gaffsail on the foremast or mainmast of a ship or barque is called a trysail.

In fore and aft rigged vessels the trysail is a bad weather sail, set when an ordinary gaffsail cannot be carried in safety. The above definition applies whether the trysail be a substitute for the ordinary sail or merely additional to it.

TUMBLE HOME, the narrowing of the distance between the sides as they approach the deck, the opposite of flare.

TURN TO WINDWARD, a beat to windward. To turn is to beat, i. e. to sail to windward by means of a series of tacks.

TYE, a rope by which certain yards hang and by which together with the halyards they are hoisted.

TYERS, small pieces of rope, or strips of canvas by which the sails of small vessels are secured when furled.

VANGS, a rope or gear for controlling the after end of a gaff, sprit, or lateen yard. Bargemen call them wangs.

VARGORD, a spar or bar used instead of a bowline, to keep taut the leading edge of a lug or primitive square sail, seldom used nowadays. The luggers in the neighbourhood of Beer Head used them till lately. One end rested against the mast and the other pushed forward the luff of the sail.

WALES, strakes in a ship's topsides thicker than the rest of the planking, and projecting externally.

WASH STRAKE, a plank above the gunwale of a boat.

WEAR, to go about by turning the vessel's head away from the wind instead of towards it as in staying.

WEATHER HELM, words describing the position of the tiller when placed so as to turn the rudder to leeward, in order to counteract the vessel's tendency to turn her head towards the wind.

A vessel carrying much weather helm is said to gripe.

WHIP, a rope running over a single block.

WINDWARD WORK, sailing to windward.

WOODEN STOCKED, of an anchor, having the cross-piece or stock made of wood. Stock means something wooden. The word was applied to the cross-piece of an anchor because formerly it was of wood.

WOOLDING, rope wound round a mast or large spar to strengthen it if sprung, or to bind several pieces together. It is like service on a large scale. The word is nearly obsolete.

WORKING CANVAS, the sails a vessel uses in going to windward in ordinary weather.

YARD, a spar for spreading the head of a sail. Yards are used for square sails and for certain fore and aft sails. The yards of square sails hang by their middles across the line of the keel. Fore and aft yards hang generally from a point nearer the fore end and in the line of the keel.

The spars which spread the heads of the following fore and aft sails are called yards, lateen sails, lugsails, gunters, and fore and aft topsails. The small spar at the head of a studdingsail is called a yard.

YARDARM, the end of a yard, especially of the yard of a square sail.

YARD TOPSAIL, a fore and aft topsail set on a yard, as distinguished from a jibheaded topsail that has no yard.

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